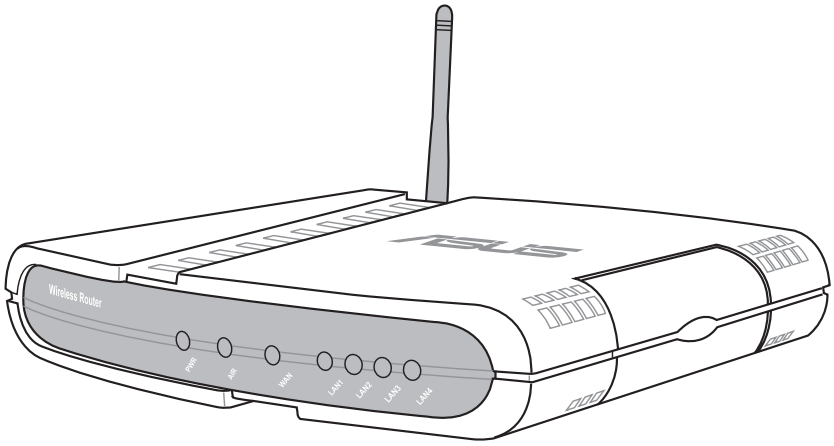
WL500g / WL500g Deluxe Wireless Router

(For 802.11g/b Wireless Clients)

WL500b Wireless Router

(For 802.11b Wireless Clients)



User's Manual

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Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the Federal Communications Commission (FCC) rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING! The use of a shielded-type power cord is required in order to meet FCC emission limits and to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used. Use only shielded cables to connect I/O devices to this equipment. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Reprinted from the Code of Federal Regulations #47, part 15.193, 1993. Washington DC: Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office.

Canadian Department of Communications

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FCC Radio Frequency Exposure Caution Statement

In order to maintain compliance with the FCC RF exposure guidelines, this equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. Use only with supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations. Any changes of modifications not expressly approved by the grantee of this device could void the users authority to operate the equipment.

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution or attachment of connecting cables and equipment other than manufacturer specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

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1. Introduction

Overview

Thank you for purchasing the ASUS Wireless Router. The ASUS Wireless Router, WL500g/WL500g Deluxe, complies with IEEE 802.11g and 802.11b standards. The ASUS 802.11b Wireless Router, WL500b, complies with IEEE 802.11b standards. The 802.11g is as extension to 802.11b (used in majority of wireless LANs today) that broadens 802.11b's data rates to 54 Mbps within the 2.4 GHz band using OFDM (orthogonal frequency division multiplexing) technology. The 802.11g allows backward compatibility with 802.11b devices but only at 11 Mbps or lower, depending on the range and presence of obstructions. Wireless LANs are complementary extensions to existing wired LANs, offering complete mobility while maintaining continuous network connectivity to both corporate and home Intranets. They add a new level of convenience for LAN users. PC users stay connected to the network anywhere throughout a building without being bound by a LAN wires. This is accomplished through the use of Access Point functionality of ASUS Wireless Routers. ASUS Wireless Router with built-in Internet gateway capability, allows your family to share a broadband Modem and one ISP account simultaneously from different rooms without wires! ASUS Wireless products can keep you connected anywhere, any time.

System Requirements

To begin using the ASUS 802.11g/802.11b Wireless Router, you must have the following minimum requirements:

- ADSL/Cable Modem and Broadband Internet Account.
- An Ethernet (10Base-T or 10/100Base-TX) adapter for wired client
- At least one 802.11g (54Mbps) or one 802.11b (11Mbps) wireless adapter for wireless mobile clients
- TCP/IP and an Internet browser installed

The Product Package

The WL500g/WL500g Deluxe Wireless Router comes with:

- One ASUS 802.11g Wireless Router
- One ASUS Wireless Router Quick Start Guide
- One power adapter (5 Volts DC)
- One support CD (utilities and user's manual)
- One RJ-45 Ethernet cable (straight-through)

The WL500b Wireless Router comes with:

- One ASUS 802.11b Wireless Router
- One ASUS Wireless Router Quick Start Guide
- One power adapter (5 Volts DC)
- One support CD (utilities and user's manual)
- One RJ-45 Ethernet cable (straight-through)

Features

The WL500g/WL500g Deluxe and WL500b Wireless Router features include:

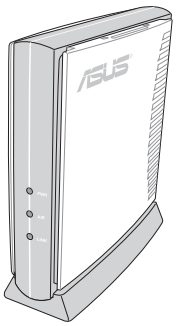
- **Wireless Connectivity And Protect Compatibility.** WL500g/WL500g Deluxe Wireless Router enables fastest 54Mbps IEEE 802.11g wireless transmission but keeps compatibility with existing IEEE 802.11b devices. WL500g Deluxe increases performance compared with standard 802.11g when Afterburner mode is enabled. The WL-500b Wireless Router utilizes the IEEE 802.11b standard.
- **Secure wireless connectivity.** The integrated Wireless Access Point with WPA authentication and encryption functionality allows the wireless router to link a broadband Internet connection to your local network of 802.11g or/and 802.11b wireless mobile clients securely. The ASUS Wireless Router is firmware upgradable to support WPA.
- **Multiple local network ports.** Four 10/100Base-T Ethernet ports, offering either a connection to a hub or switch on the local wired network or a direct connection to multiple Ethernet-enabled computers. Build-in DHCP server allows the Wireless Router to provide IP addresses to clients on your local network automatically.

- **Broadband port.** The Broadband port connects the Wireless Router to your cable/DSL modem. Static IP, dynamically IP and PPPoE (PPP over Ethernet) connection to Internet are supported.
- **Shared Internet access.** All computers on the local network can access the Internet through the Wireless Router, using only a single external IP address.
- **Firewall protection.** The wireless router use of NAT (Network Address Translation) provides firewall protection for your local network.
- **Children Protection.** The wireless router allows you to block the Internet access within a predefined time interval and to block the WWW access with specific keywords in URL within a predefined time interval.
- **USB devices support.** Connecting a USB storage device to the wireless router enables you to set up an FTP server and share the USB storage device with Internet or WLAN users. With a USB web camera, the wireless router allows you to monitor locations such as your home or office from any location through a wireless LAN or over the Internet.
- **Printer sharing.** With an additional Printer, the ASUS Wireless Router allows you to share the printer to your local area network. Standard parallel printers are supported.
- **Easy setup and management.** Use your web browser from any computer on the local network to configure the ASUS Wireless Router.

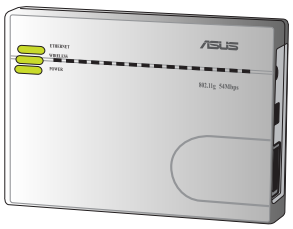
The ASUS Wireless Family

The ASUS Wireless family contains a several wireless network solutions for 802.11g & 802.11b wireless local area networks in the home or office.

Access Point or Client

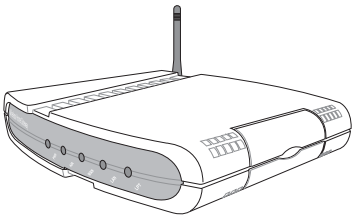


The **ASUS WLAN 802.11g Access Point (WL-300g)** creates a wireless network using the IEEE 802.11g and 802.11b wireless standards.

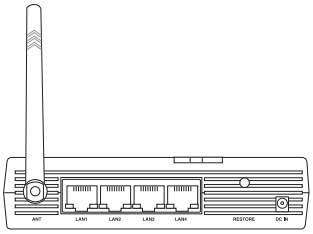


The **ASUS 3 in 1 Pocket Access Point (WL-330g)** creates a wireless network using the IEEE 802.11g/b wireless standards.

Access Point & Router

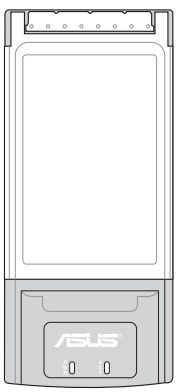


The **ASUS WLAN Gateway (WL-500g)** creates a wireless network using the IEEE 802.11g/b wireless standards and allows sharing a single Internet connection.



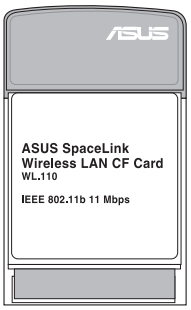
The **ASUS WLAN 802.11g Pocket Router (WL-530g)** creates a wireless network using the IEEE 802.11g and 802.11b wireless standards and allows sharing a single Internet connection.

PCMCIA Client



The **ASUS WLAN PC Card (WL-107g)** is a wireless LAN adapter that fits into a PCMCIA Type II slot in a Notebook PC and creates a wireless network using the IEEE 802.11g/b wireless standards.

Compact Flash (CF) Client



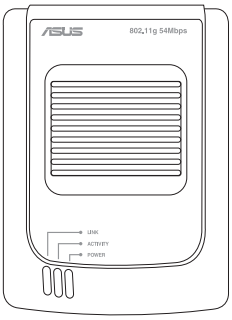
The **ASUS 802.11b Wireless CF Card (WL-110)** is a IEEE 802.11b wireless LAN adapter that fits into a Compact Flash Type II slot in a Portable Digital Assistant (PDA).

(The illustrations are not to scale.)

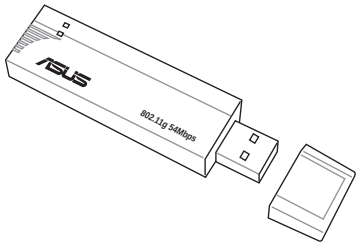
PCI Client

The **ASUS WLAN PCI Card (WL-138g)** is a wireless LAN adapter that fits into a standard PCI slot in a desktop PC and creates a wireless network using the IEEE 802.11g/b wireless standards.

USB Access Point or Client USB Client

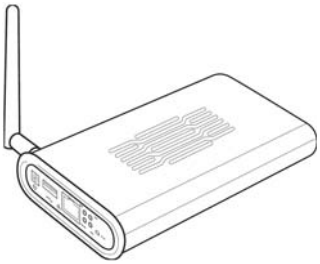


The **ASUS USB Wireless LAN Adapter (WL-160g)** creates a wireless network using the IEEE 802.11g/b wireless standards and connects to any computer using USB2.0 connectivity.



The **ASUS USB Wireless LAN Adapter (WL-167g)** is thumb-sized and creates a wireless network using the IEEE 802.11g/b wireless standards and connects to any computer using USB2.0 connectivity.

Access Point & File Server



The **ASUS WLAN 802.11g Access Point (WL-HDD)** creates a wireless network using the IEEE 802.11g and 802.11b wireless standards. Also serves as a file server (wireless network attached storage).

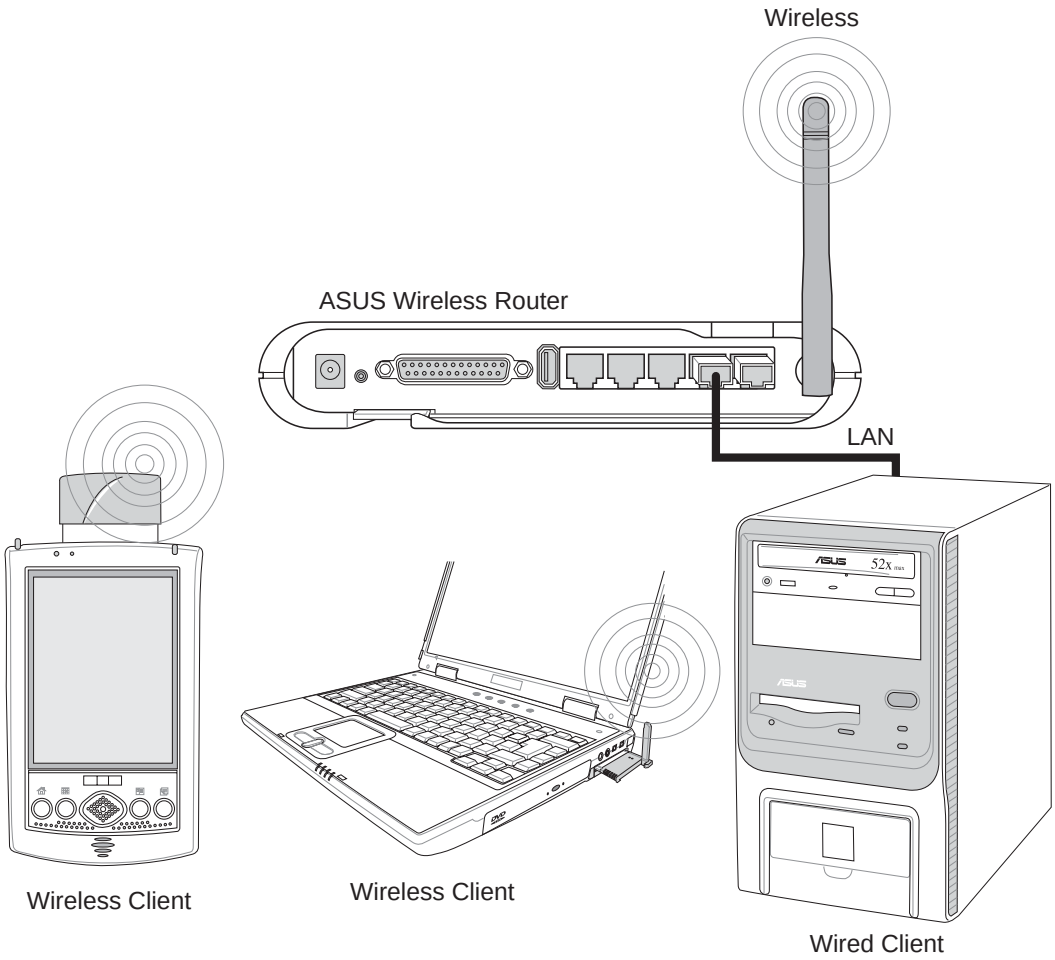
(The illustrations are not to scale.)

Network Topology

The settings that you need to perform will vary depending on the role that your ASUS Wireless Router will play.

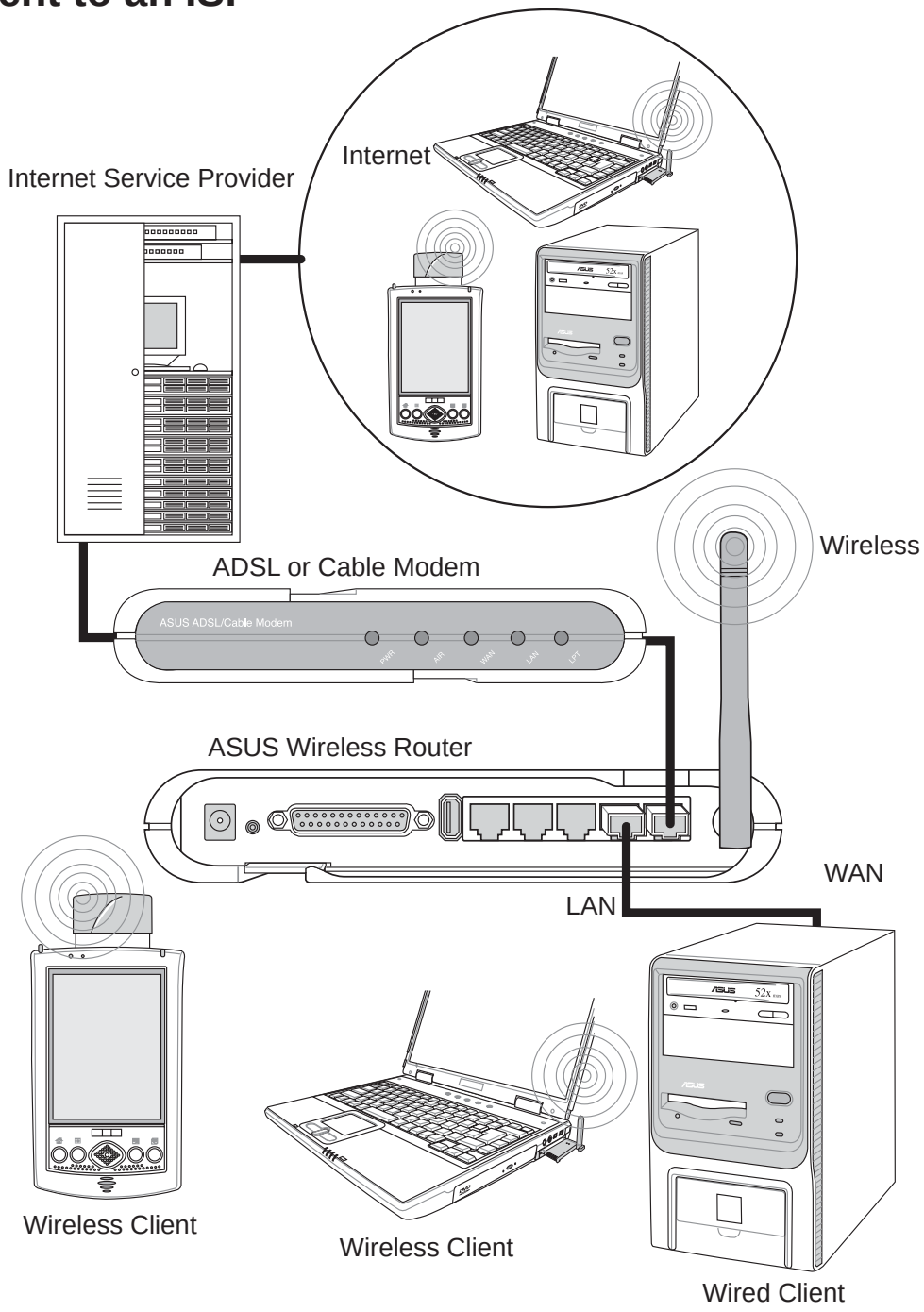
Network Backbone

No software setting is necessary in the ASUS Wireless Router.



In this topology, the wireless router connects your wired and wireless devices together to form a local area network (LAN), as shown. To connect a computer (or other device) to the ASUS Wireless Router, you need a network cable (UTP-Cat5) with one end connected to one of the LAN ports on the back of the ASUS Wireless Router and the other in the 10/100 LAN port on that device. For wireless connections, wireless mobile clients must comply with the IEEE 802.11b standard.

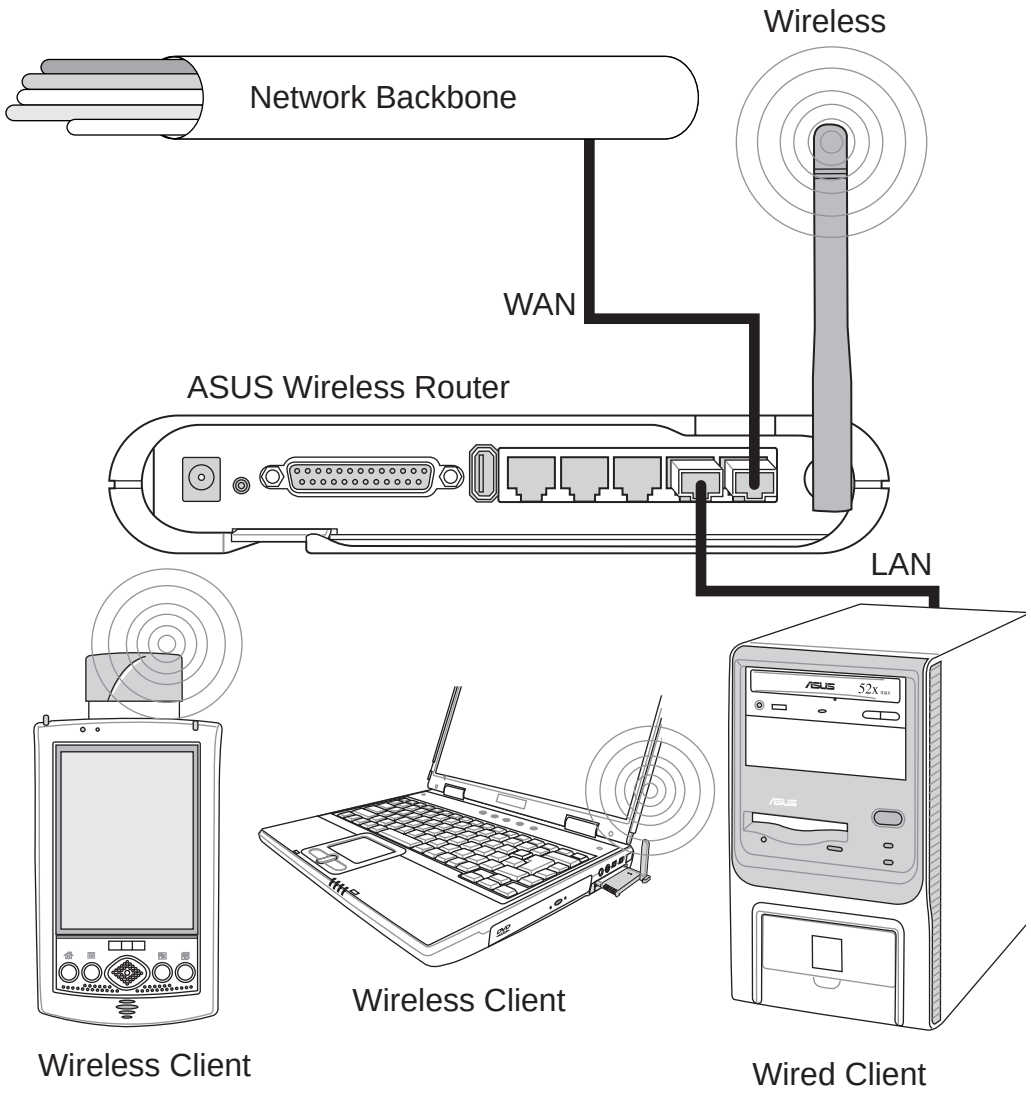
Agent to an ISP



In this topology, the wireless router is not only a backbone of your LAN but also an agent to your Internet Service Provider (ISP). You may use an ADSL or Cable modem to communicate with your ISP. Connect the LAN port on the modem with the WAN port at the back of the ASUS Wireless Router using a network cable as shown above.

Note: You also need to make sure that other connections on the ADSL or Cable modem are correct.

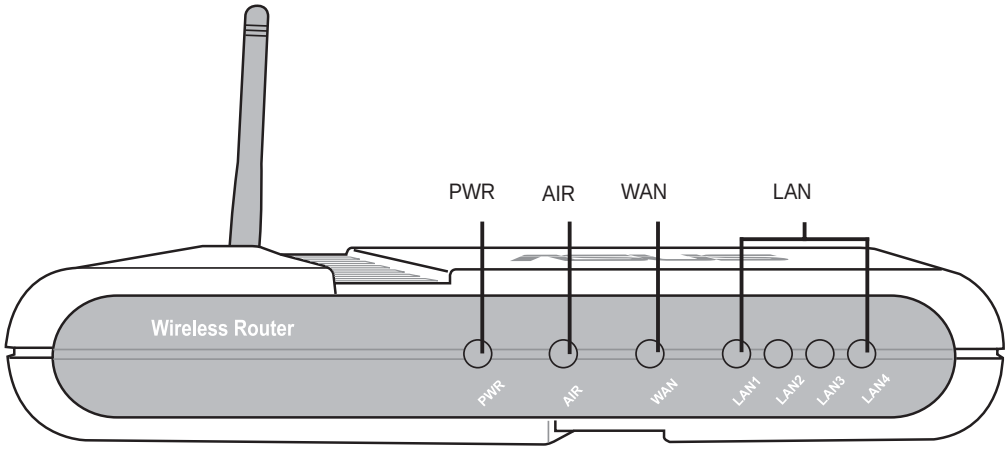
Agent to Another Network



In this topology, the wireless router is an agent between your LAN and another network. Use a network cable with one end connected to the WAN port on the wireless router and the other to the other network as shown above.

LED Indicators

The LEDs on the front of the ASUS Wireless Router display the status of the ASUS Wireless Router.



PWR (Power)

Off	No power
On	System ready
Flashing	Firmware upgrade failed

AIR (Wireless Network)

Off	No power
On	Wireless system ready
Flashing	Transmitting or receiving data (wireless)

WAN (Wide Area Network)

Off	No power
On	Has physical connection to an Ethernet network
Flashing	Transmitting or receiving data (through Ethernet wire)

LAN 1-4 (Local Area Network)

Off	No power
On	Has physical connection to an Ethernet network
Flashing	Transmitting or receiving data (through Ethernet wire)

2. Installation Procedure

Follow these steps to install the ASUS Wireless Router.

1. Determine the best location for the ASUS Wireless Router. Keep in mind the following considerations:
   - The length of the Ethernet cable that connects the ASUS Wireless Router to the network must not exceed 100 meters.
   - Try to place the ASUS Wireless Router on a flat, sturdy surface as far from the ground as possible, such as on top of a desk or bookcase, keeping clear of obstructions and away from direct sunlight.
   - Try to centrally locate the ASUS Wireless Router so that it will provide coverage to all of the wireless mobile devices in the area. Orientating the antenna vertically should provide the best reception.
   - Use only the power supply that came with this unit. Other power supplies may fit but the voltage and power may not be compatible.
2. Wall mounting or vertical standing is also possible.

It is the responsibility of the installer and users of the ASUS Wireless Router to guarantee that the antenna is operated at least 20 centimeters from any person. This is necessary to insure that the product is operated in accordance with the RF Guidelines for Human Exposure which have been adopted by the Federal Communications Commission.

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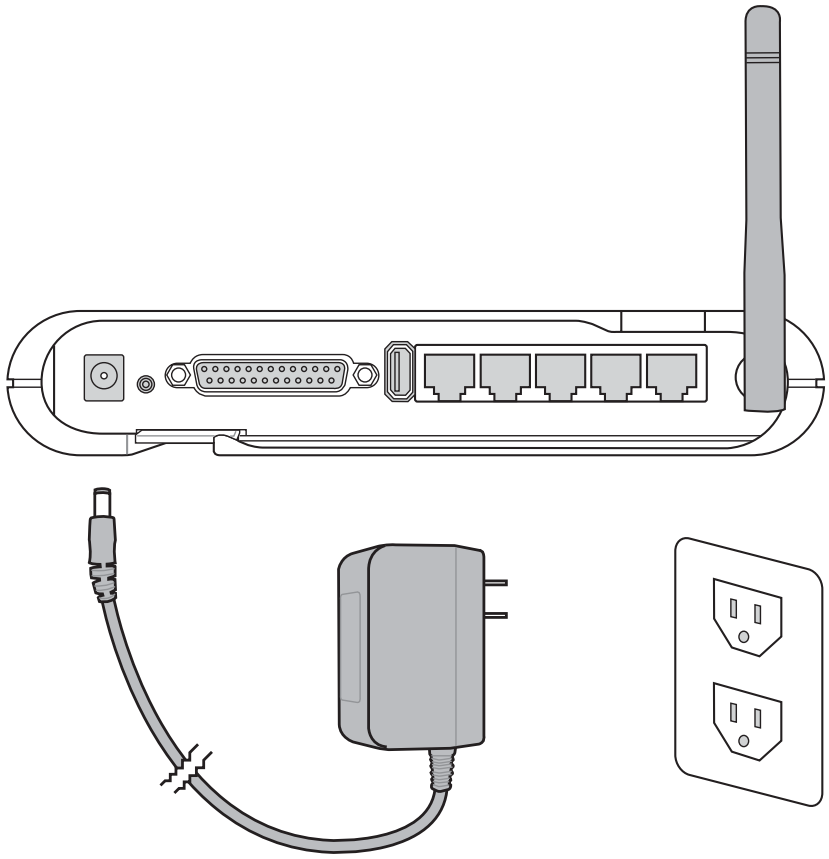
4. **LAN Connection:** Attach one end of an RJ-45 Ethernet cable to the ASUS Wireless Router's LAN port (any one of the four) and attach the other end to the RJ-45 Ethernet cable to your desktop computer.
5. **Power Connection:** The ASUS Wireless Router requires power from an external power supply. The ASUS Wireless Router ships with a UL listed, Class 2 power supply (5V). Attach one end of the DC power adapter to the back of the ASUS Wireless Router and the other end to a power outlet.

   The Power LED on the front of the ASUS Wireless Router will light up when the unit is powered ON. In addition, the green LAN or WAN LEDs will turn ON to indicate that the ASUS Wireless Router has a physical Ethernet network connection.

Warning: Use the ASUS Wireless Router only with the power adapter supplied in the product package. Using another power supply may damage the ASUS Wireless Router.



6. **Printer Connection:** Connect a printer to the Wireless Router printer port (WL500g/WL500b only) or USB port to use the router as a printing server for your local network.
7. **USB Connection:** Connect a supported USB web camera or USB storage device to the Wireless Router USB port.

Note: Before using an embedded USB application or device, refer to the USB storage and USB camera support list on the ASUSTeK Web site at the following Internet address: http://www.asus.com.

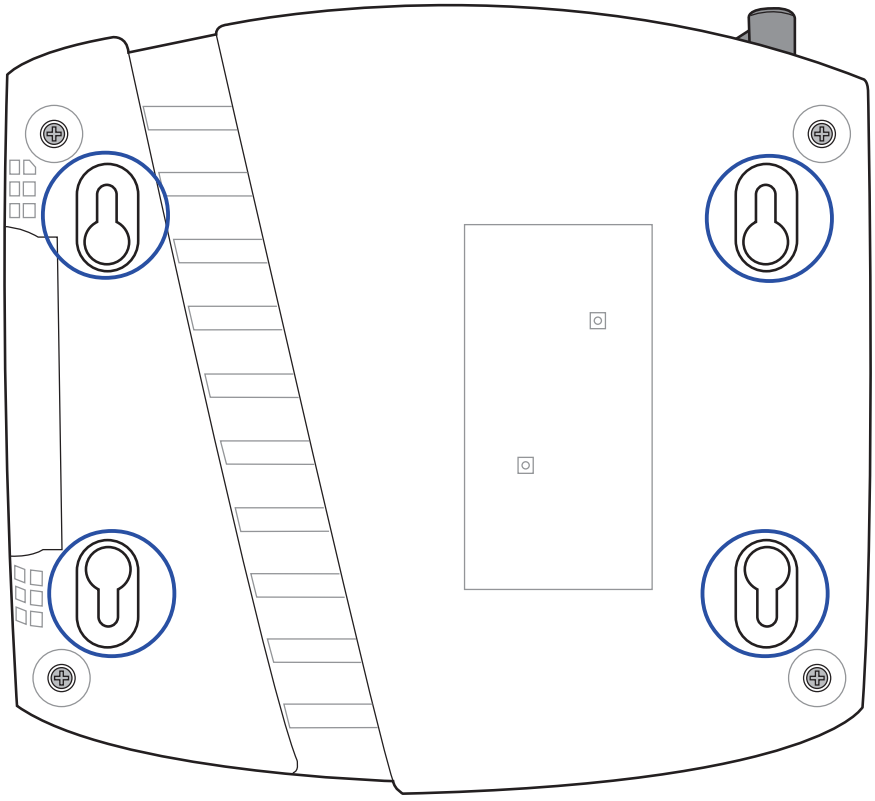
Wall Mounting Option

Out of the box, the ASUS Wireless Router is designed to sit on a raised flat surface like a file cabinet or book shelf. The unit may also be converted for mounting to a wall or ceiling.

Follow these steps to mount the ASUS Wireless Router to a wall:

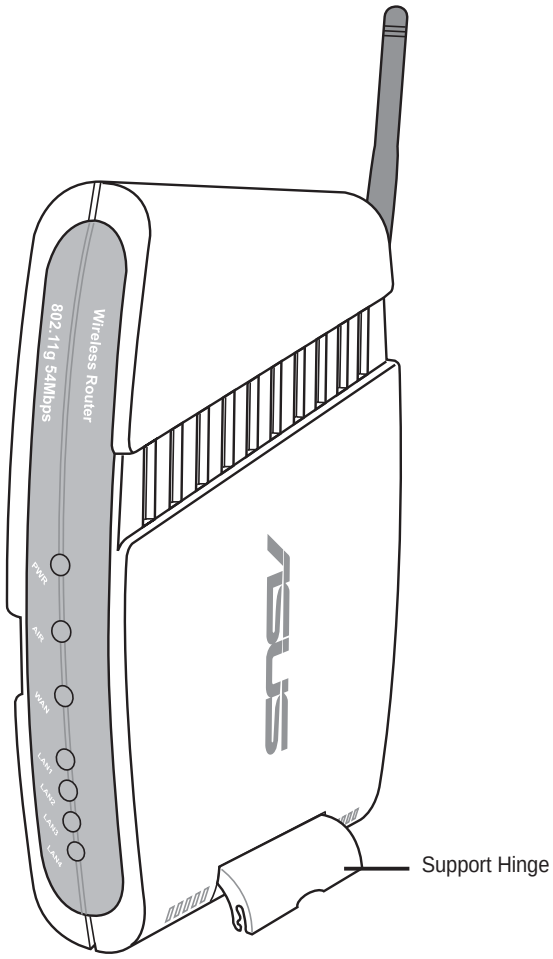
1. Look on the underside for the four mounting hooks.
2. Mark two upper holes in a flat surface using the provided hole template.
3. Tighten two screws until only 1/4" is showing.
4. Latch the upper two hooks of the ASUS Wireless Router onto the screws.

Note: Readjust the screws if you cannot latch the ASUS Wireless Router onto the screws or if it is too loose.



Vertical Standing Option

The ASUS Wireless Router can also stand on its side to save space. Two hinges can be opened on the right side to support vertical standing. Orientate the antenna so that it points upwards.



Connecting to the ASUS Wireless Router

Wired Connection

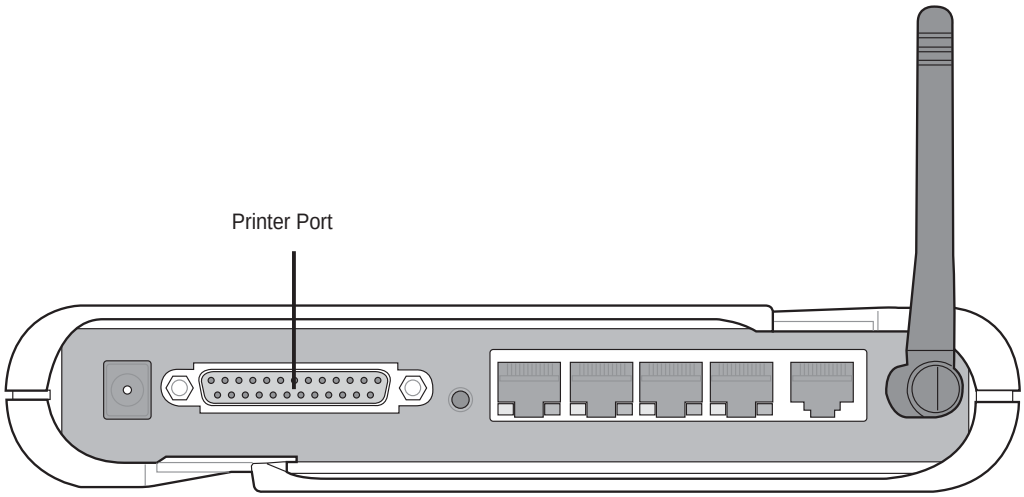
One RJ-45 cable is supplied with the ASUS Wireless Router. Auto crossover function is designed into the ASUS Wireless Router so you can use either a straight-through or a crossover Ethernet cable. Plug one end of the cable into the WAN port on the rear of the ASUS Wireless Router and the other end into the Ethernet port of your ADSL or Cable modem.

Wireless-Connection

Refer to your wireless adapter user's manual on associating with the ASUS Wireless Router. The default SSID of the ASUS Wireless Router is "default" (lower case), encryption is disabled and open system authentication is used.

Printer Connection (WL500g/WL500b only)

A DB25 parallel cable should be supplied with your printer. Plug the male connector of this parallel cable into the printer port on the rear of the ASUS Wireless Router and the centronics end into your printer.



3. Software Configuration

Configuring the ASUS Wireless Router

The ASUS Wireless Router can be configured to meet various usage scenarios. Some of the factory default settings may suit your usage; however, others may need changing. Prior to using the ASUS Wireless Router, you must check the basic settings to guarantee it will work in your environment. Configuring the ASUS Wireless Router is done through a web browser. You need a Notebook PC or desktop PC connected to the ASUS Wireless Router (either directly or through a hub) and running a web browser as a configuration terminal. The connection can be wired or wireless. For the wireless connection, you need an IEEE 802.11g/b compatible device, e.g. ASUS WLAN Card, installed in your Notebook PC. You should also disable WEP and set the SSID to "default" for your wireless LAN device. If you want to configure the ASUS Wireless Router or want to access the Internet through the ASUS Wireless Router, TCP/IP settings must be correct. Normally, the TCP/IP setting should be on the IP subnet of the ASUS Wireless Router.

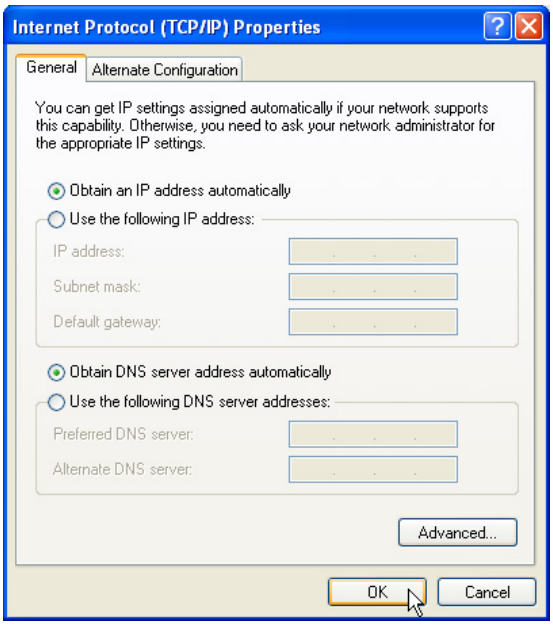
Note: Before rebooting your computer, the ASUS Wireless Router should be switched ON and in ready state.

Setting IP address for Wired or Wireless Connection

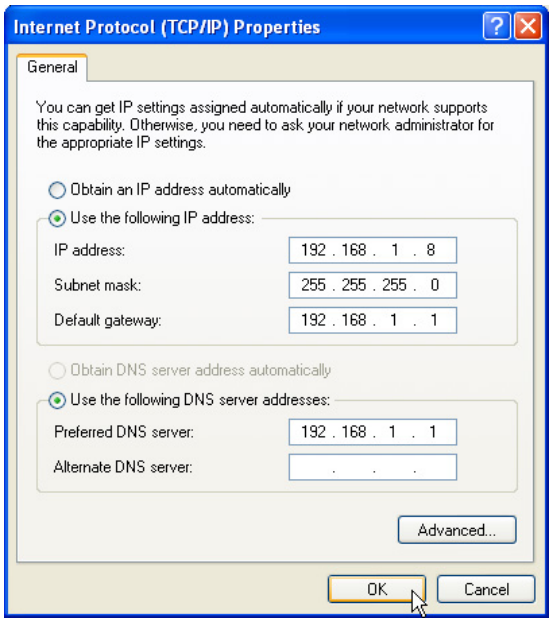
Get IP Automatically

The ASUS Wireless Router incorporates a DHCP server so the easiest method is to set your PC to get its IP address automatically and reboot your computer. So the correct IP address, gateway, DNS (Domain Name System Server) can be obtained from the ASUS Wireless Router.

Note: Before rebooting your PC, the ASUS Wireless Router should be switched ON and in ready state.



Setting IP Manually



If you want to set your IP address manually, the following default settings of the ASUS Wireless Router should be known:

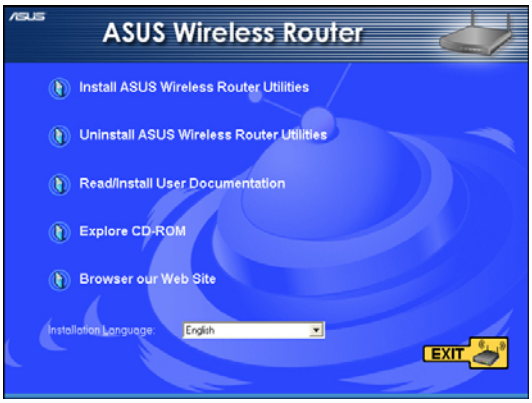
- IP address 192.168.1.1
- Subnet Mask 255.255.255.0.

If you set your computer's IP manually, it needs to be on the same segment. For example:

- IP address 192.168.1.xxx (xxx can be any number between 2 and 254 that is not used by another device)
- Subnet Mask 255.255.255.0 (same as the ASUS Wireless Router)
- Gateway 192.168.1.1 (this is the ASUS Wireless Router)
- DNS 192.168.1.1 (ASUS Wireless Router IP address or your own).

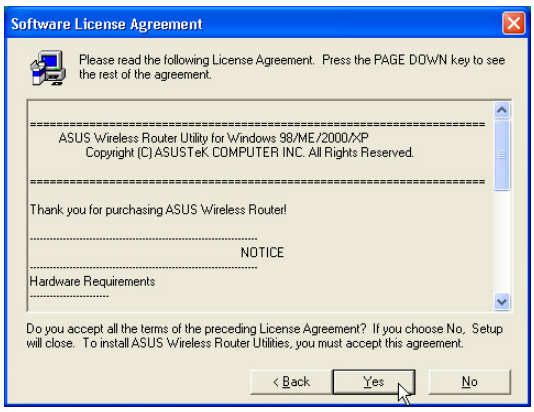
Installing the ASUS Wireless Router Utilities

Follow these steps to install the ASUS Wireless Router Utilities in Microsoft Windows. Insert the support CD provided with the ASUS Wireless Router and the menu will appear. (Double-click **setup.exe** if your autorun has been disabled.)

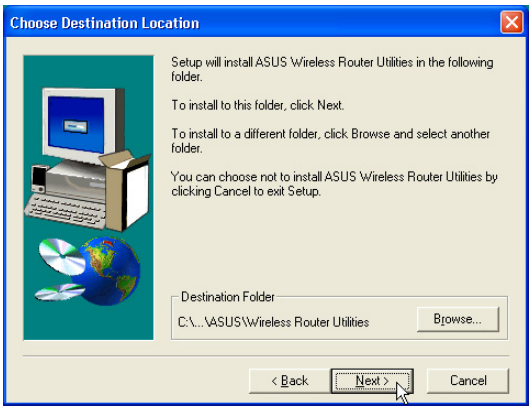


(1) Select a language and click **Install ASUS Wireless Router Utilities**.

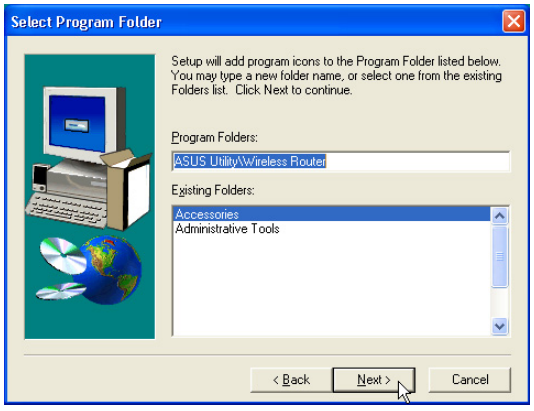
(2) Click **Next** after reading the welcome screen.



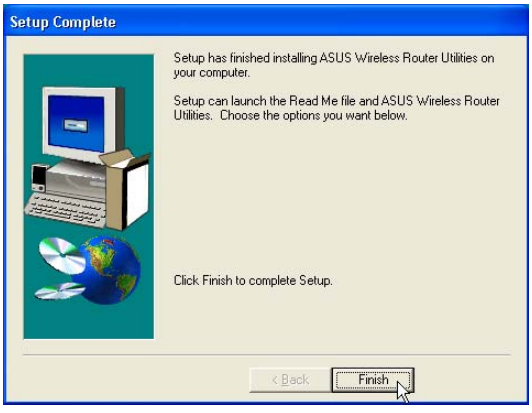
(3) Click **Yes** after reading the license agreement.



(4) Click **Next** to accept the default destination folder or enter another.



(5) Click **Next** to accept the default program folder or enter another.

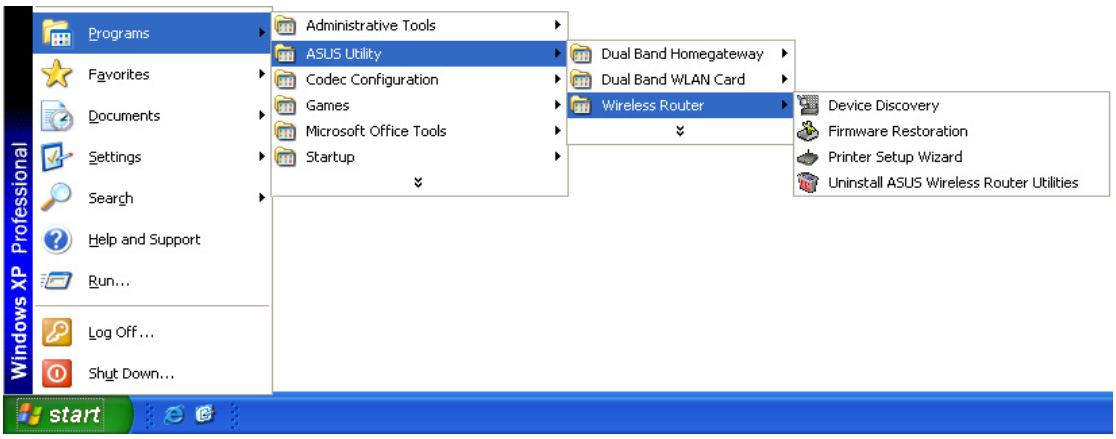


(6) Click **Finish** when setup is complete.

Using the Wireless Router for the First Time

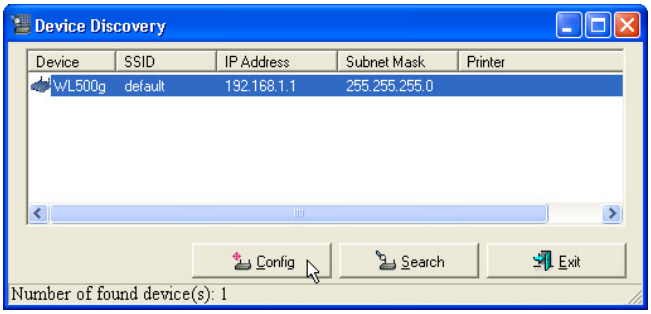
1. ASUS Wireless Router Utilities

Run **Device Discovery** from "ASUS Utility" in Windows Start Programs.

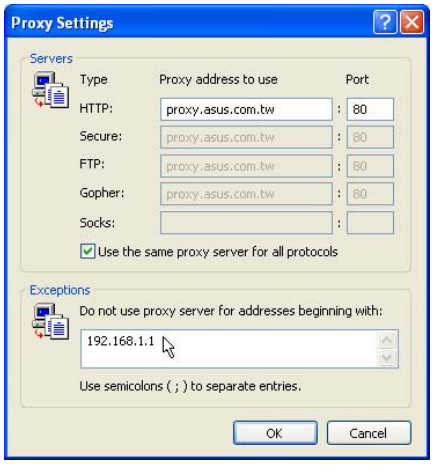


2. Connect to the ASUS WLAN Web Manager

Run the ASUS WLAN **Device Discovery** from the **Start** menu and click **Config** when the device is found.



Microsoft® Internet Explorer



Add **192.168.1.1** in the Exceptions box if you are using a proxy server (Microsoft® Internet Explorer).

If your computer's IP is not on the same subnet as the ASUS Wireless Router (192.168.1.X), you will be asked to change it. The IP address can be any number from 2 to 254 that is not used by another device. Gateway is not required.

Note: Using a proxy server (Microsoft® Internet Explorer) for your LAN requires that you set an exception for the ASUS Wireless Router or else connection will fail.

Enter Address or Name Manually

You can also open your PC's web browser and enter the name or the default IP address of the ASUS Wireless Router:

WL500g

http://my.router or **http://my.WL500g** or **http://192.168.1.1**

WL500g Deluxe

http://my.router or **http://my.WL500gx** or **http://192.168.1.1**

User Name & Password

Once connected, a window will ask for the User name and Password in order to log in. The factory default values are "**admin**" and "**admin**".

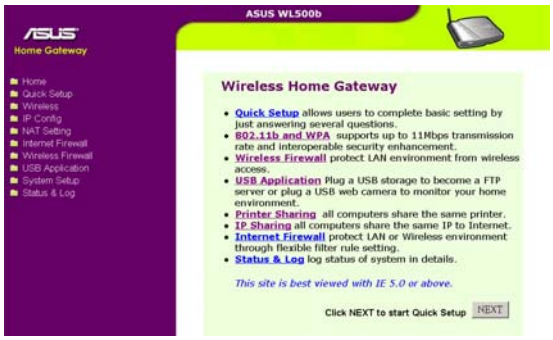
Note: If you cannot find any the ASUS Wireless Routers due to a problem in the IP settings, push and hold the "Restore" button over five seconds to restore factory default settings.

Home Page

After logging in, you will see the ASUS Wireless Router home page.

WL500g

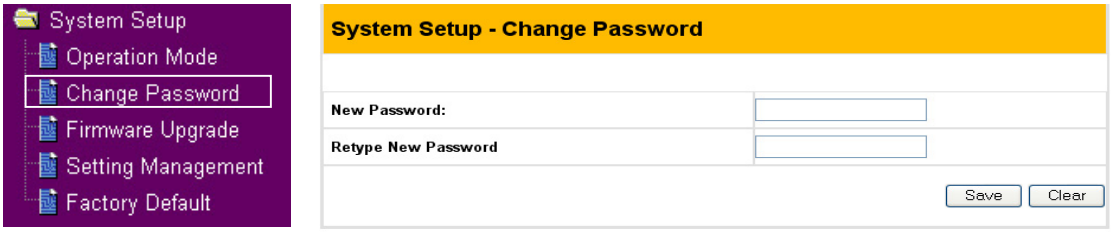
WL500g Deluxe



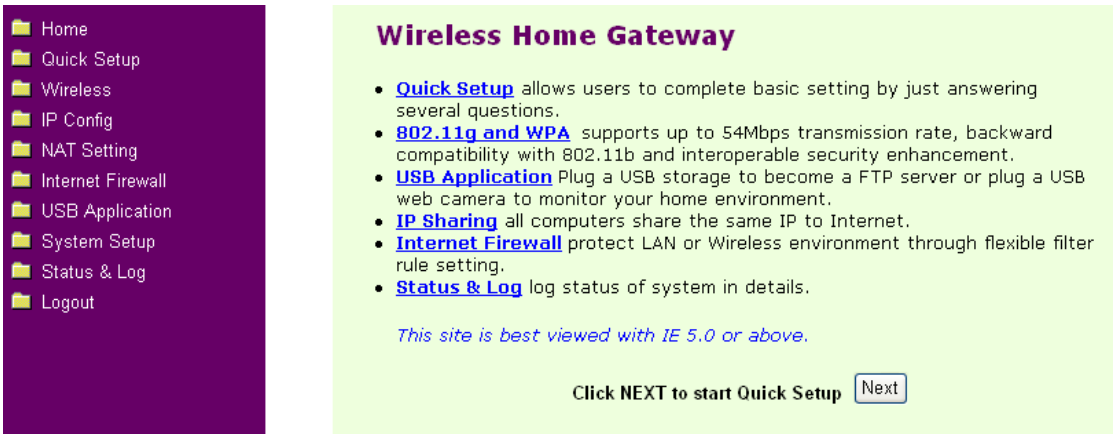
WL500b

IMPORTANT: After entering information on any page, click the "Apply" button Apply. If you click any other link, you will be directed to another page and lose your new settings.

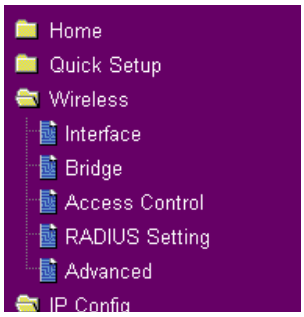
3. Set your own password



4. Use Quick Setup

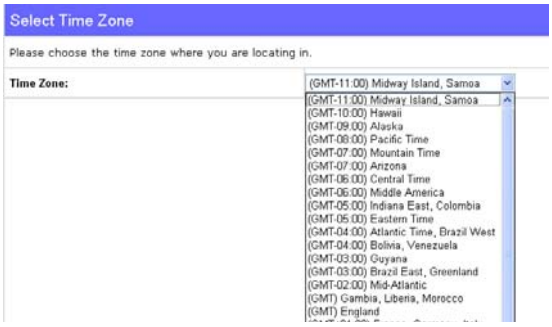


Home Gateway Mode

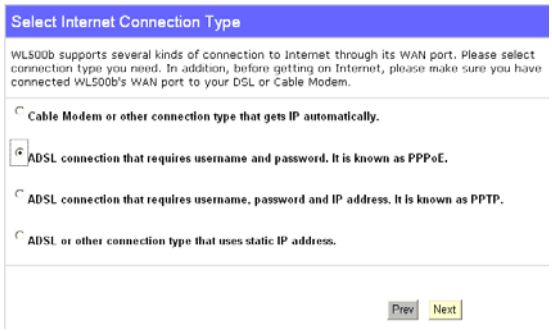


There are three operation modes in the ASUS Wireless Router. The default operation mode of the ASUS Wireless Router is Home Gateway Mode. Please refer to "System Setup" – "Operation Mode" in detail. To start quick setup, click **Next** to enter the "Quick Setup" page. Follow the instructions to setup the ASUS Wireless Router.

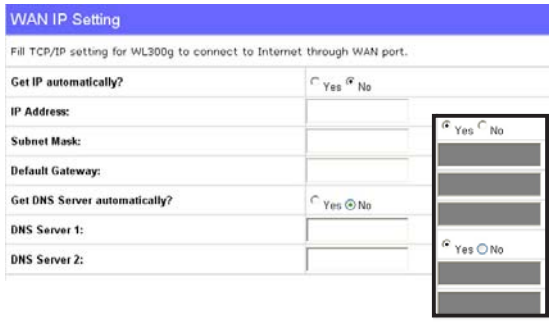
Quick Setup in Home Gateway Mode



Select your time zone or the closest region. Click **Next** to continue.

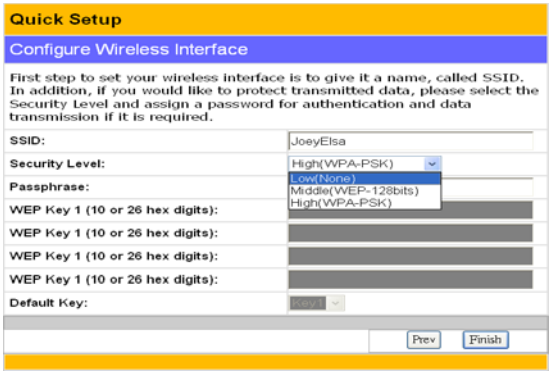


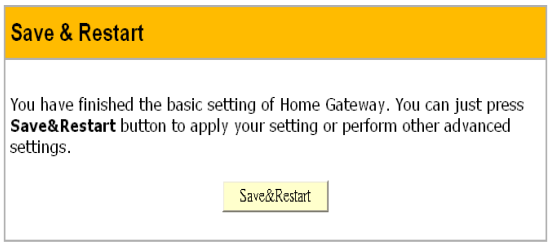
Select the connection type. Click **Next** to continue.



Select "No" to enter the information manually. "Yes" will disable the field. Click **Next** to continue.

Home Gateway Mode (Cont.)





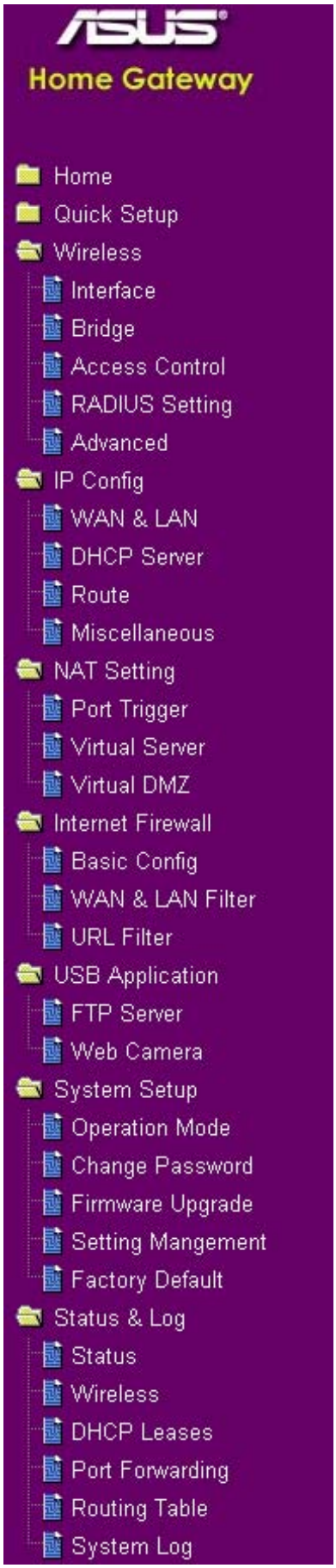
To set up your wireless interface, you must first give it an SSID (Service Set Identifier). The SSID is a unique identifier attached to packets sent over WLANs. This identifier emulates a password when a wireless device attempts communication on the WLAN. Because an SSID distinguishes WLANs from each other, access points and wireless devices trying to connect to a WLAN must use the same SSID.

Also, if you want to protect transmitted data, select a middle or high Security Level.

Middle: allows only those users with the same WEP key to connect to this access point and to transmit data using 128-bit WEP encryption.

High: allows only those users with the same WPA pre-shared key to connect to this access point and to transmit data using TKIP encryption.

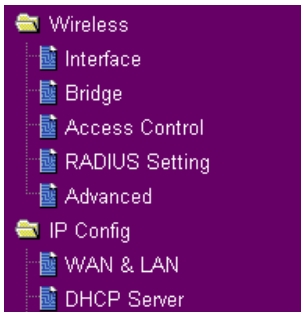
Click **Finish** to continue. You are prompted to save the settings. Click **Save&Restart** to save the settings to the ASUS Wireless Router and enable the new settings.



To adjust other settings, click an item on the menu to reveal a submenu and follow the instructions to setup the ASUS Wireless Router. Tips are given when you move your cursor over each item. The following have submenu items:

- Wireless
- IP Config
- NAT Setting
- Internet Firewall
- USB Application
- System Setup
- Status & Log

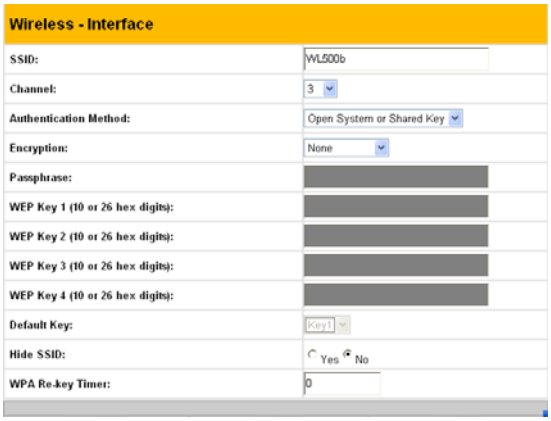
Wireless



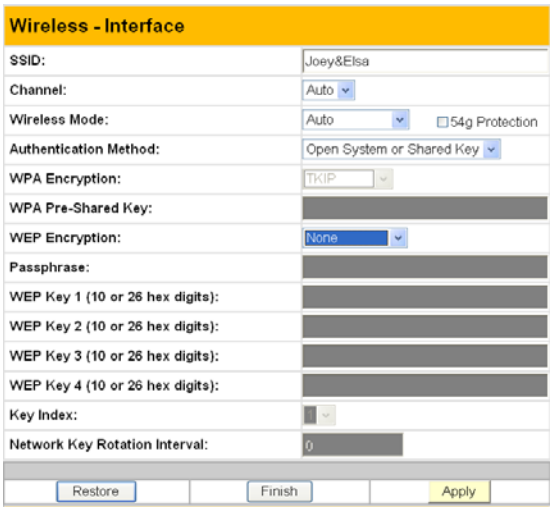
Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

Interface

WL500b



WL500g/WL500g Deluxe



SSID

The SSID is an identification string of up to 32 ASCII characters that differentiate one ASUS Wireless Router AP or Access Point from other manufacturers. The SSID is also referred to as the “ESSID” or “Extended Service Set ID.” You can use the default SSID and radio channel unless more than one ASUS Wireless Router or Access Point is deployed in the same area. In that case, you should use a different SSID and radio channel for each ASUS Wireless Router or Access Point. All ASUS Wireless Routers and ASUS 802.11g/802.11b WLAN client adapters must have the same SSID to allow a wireless mobile client to roam between the ASUS Wireless Routers . By default, the SSID is set to “default”.

Wireless (Cont.)

Channel

The 802.11g and 802.11b specifications supports up to 14 overlapping channels for radio communication. To minimize interference, configure each ASUS 802.11g AP to be non-overlapping; select Auto from the Channel drop-down list to enable the system to select a clear channel during boot up as your operating channel.

Ensure that ASUS Wireless Routers sharing the same channel (or channels which are close in number) are as far away from each other as possible, based on the results of your site survey of the facility. There is a site survey utility on the ASUS Wireless Router setup CD.

Wireless Mode (WL500g/WL500g Deluxe Only)

This field indicates the 802.11g interface mode. Selecting “Auto” allows 802.11g and 802.11b clients to connect to the ASUS Wireless Router. Selecting “54g Only” maximizes performance, but prevents 802.11b clients from connecting to the ASUS Wireless Router. If “54g Protection” is checked, G-Mode protection of 11g traffic is enabled automatically in the presence of 11b traffic.

Wireless (Cont.)

Authentication Method	Encryption	Passphrase	WEP Key 1~4
Open or shared key	None WEP-64 bits WEP-128 bits	Not required 1~64 characters 1~64 characters	Not required 10 hex 26 hex
Shared key	WEP-64 bits WEP-128 bits	1~64 characters 1~64 characters	10 hex 26 hex
WPA-PSK ^	TKIP only * AES only *	8~63 characters 8~63 characters	Not required Not required
WPA ^	TKIP only * AES only *	Not required Not required	Not required Not required
Radius with 802.1x ^	Auto WEP-64 bits WEP-128 bits	Not required 1~64 characters 1~64 characters	Not required 10 hex 26 hex

* WL500g/WL500g Deluxe supports AES and TKIP encryption for WPA.

^ WL500b does not support WPA and Radius with 802.1x and WL500b only supports TKIP encryption for WPA-PSK.

WEP Encryption

Traditional WEP encryption is applied when "Open or Shared Key", "Shared Key" or "Radius with 802.1x" authentication methods are selected.

WL500g/WL500g Deluxe: When "WPA" or "WPA-PSK" authentication methods are selected, you still can set WEP encryption for those clients that do not support WPA/WPA-PSK. Please note that Key Index for WEP key is limited to 2 or 3 when both WPA and WEP encryption are supported at the same time.

64/128-bit versus 40/104-bit

The following section explains low-level (64-bit) and high-level (128-bit) WEP Encryption schemes:

Wireless (Cont.)

64-bit WEP Encryption

64-bit WEP and 40-bit WEP are the same encryption method and can interoperate in a wireless network. This level of WEP encryption uses a 40-bit (10 Hex character) encryption scheme as a secret key, which is set by the user, and a 24-bit "Initialization Vector" scheme, which is not under user control.

Together these two schemes make a 64-bit (40 + 24) encryption scheme. Some vendors refer to this level of WEP as 40-bit and others refer to this as 64-bit. ASUS WLAN products use the term 64-bit when referring to this *lower* level of encryption.

128-bit WEP Encryption

104-bit WEP and 128-bit WEP are the same encryption method and can interoperate on a wireless network. This level of WEP encryption uses a 104-bit (26 Hex character) encryption scheme as a secret key which is set by the user, and a 24-bit "Initialization Vector", which is not under user control.

Together these two schemes make a 128-bit (104 + 24) encryption scheme. Some vendors refer to this level of WEP as 104-bit and others refer to this as 128-bit. ASUS WLAN products use the term 128-bit when referring to this *higher* level of encryption.

Passphrase

Selecting "WEP-64bits" or "WEP-128bits" in the Encryption field generates four WEP keys automatically. A combination of up to 64 letters, numbers, or symbols is required. Alternatively, leave this field blank and type in four WEP keys manually.

- ¥ WEP-64bit key: 10 hexadecimal digits (0~9, a~f, and A~F)
- ¥ WEP-128bit key: 26 hexadecimal digits (0~9, a~f, and A~F)

Note: The ASUS WLAN family of products uses the same algorithm to generate WEP keys, eliminating the need for users to remember passwords and to maintain compatibility between products. However, using this method to generate WEP keys is not as secure as manual assignment.

Wireless (Cont.)

WEP Key

You can set a maximum of four WEP keys. A WEP key is either 10 or 26 hexadecimal digits (0~9, a~f, and A~F) based on whether you select 64bits or 128bits in the WEP pull-down menu. The ASUS Wireless Router and ALL of its wireless clients MUST have at least the same default key.

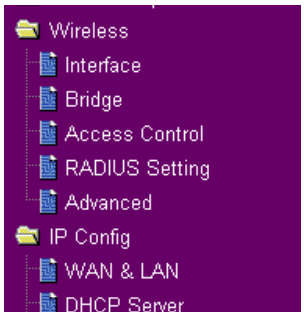
Key Index

The Default Key field lets you specify which of the four encryption keys you use to transmit data on your wireless LAN. As long as the ASUS Wireless Router or wireless mobile client with which you are communicating has the same key in the same position, you can use any of the keys as the default key. If the ASUS Wireless Router and ALL of its wireless clients use the same four WEP keys, select “key rotation” to maximize security. Otherwise, choose one key in common as the default key.

Network Rotation Key Interval

This field specifies the time interval (in seconds) after which a WPA group key is changed. Enter ‘0’ (zero) to indicate that a periodic key-change is not required.

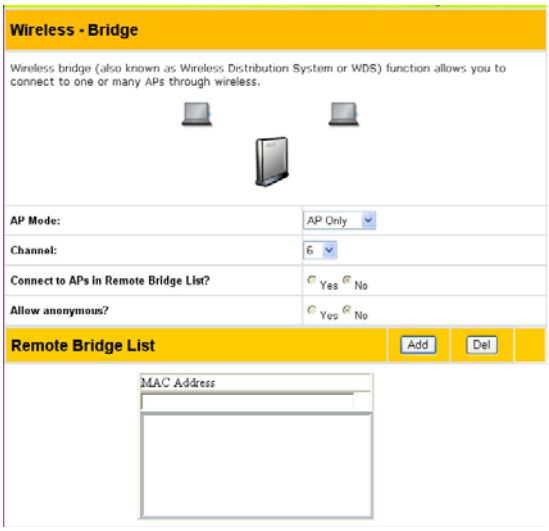
Wireless



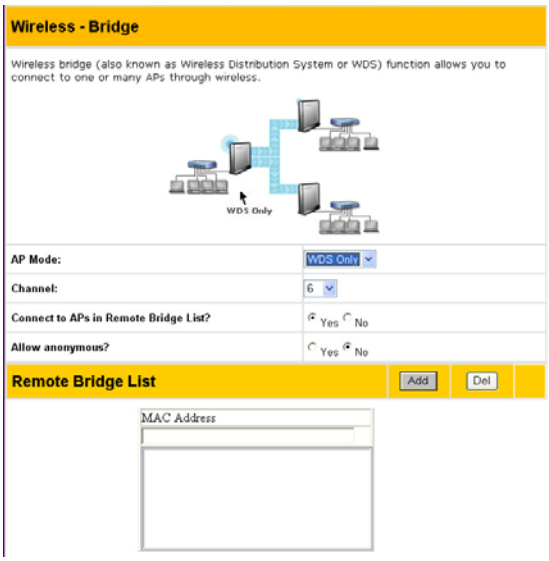
Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

Bridge/Access Control List

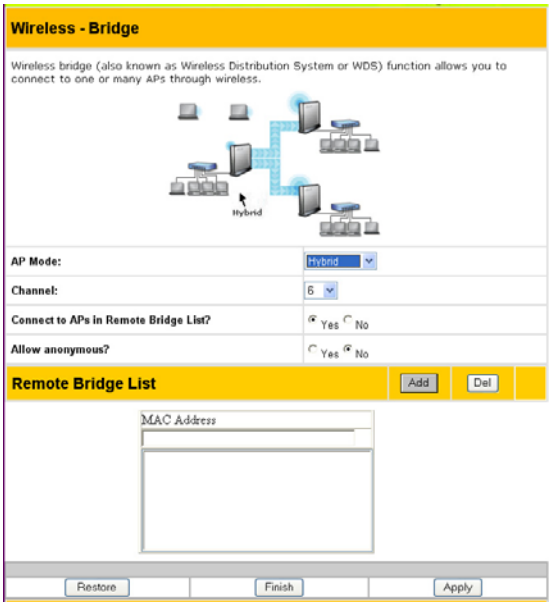
AP Only



WDS Only (WL500g/WL500g Deluxe)



Hybrid



Wireless bridge (also known as Wireless Distribution System or WDS) allows you to connect to one or many Access Points.

Wireless (Cont.)

AP Mode

AP (Access Point) Mode configures the ASUS Wireless Router for a specific application. By default, the ASUS Wireless Router is configured as an Access Point which enables wireless mobile clients to connect wirelessly to a wired Ethernet network. The following options are available from the drop-down list:

AP Only: the ASUS Wireless Router acts only as an Access Point.

WDS Only (WL500g/WL500g Deluxe): the ASUS Wireless Router can only communicate with other Access Points.

Hybrid: Hybrid allows you to use the ASUS Wireless Router both as an access point and as a wireless bridge.

Channel

Both Access Points in Wireless Bridge mode must be set to the same channel.

Connect to APs in Remote Bridge List (Yes/No)

Select **Yes** to connect to access points in the remote bridge list.

Allow anonymous? (Yes/No) (WL500g/WL500g Deluxe)

Select **Yes** to allow users without accounts to connect.

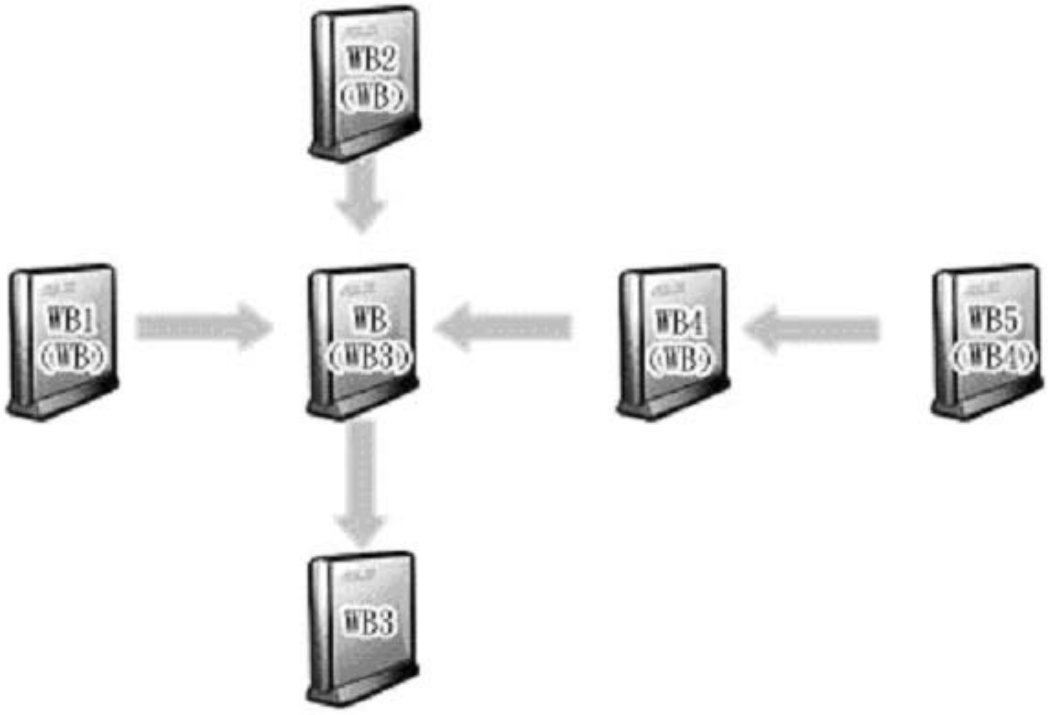
Note: If "Connect to APs in Remote Bridge List" and "Allow Anonymous" are both set to "No", it means that this AP will not connect with other APs and therefore the AP mode setting will return to "AP Only".

Wireless (Cont.)

MAC Address

Enter the MAC address of the target ASUS Wireless Router in order to designate which ASUS Wireless Router will be the partner for this ASUS Wireless Router.

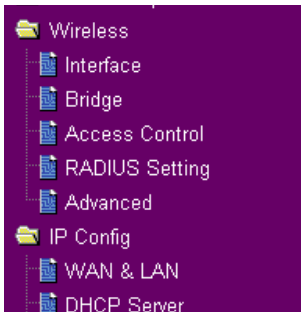
You can setup your wireless environment as shown in this figure:



Note: The content in braces "( )" is the MAC address in the Remote Bridge List of the AP. For example, WB1 have the MAC address of WB in its Remote Bridge List.

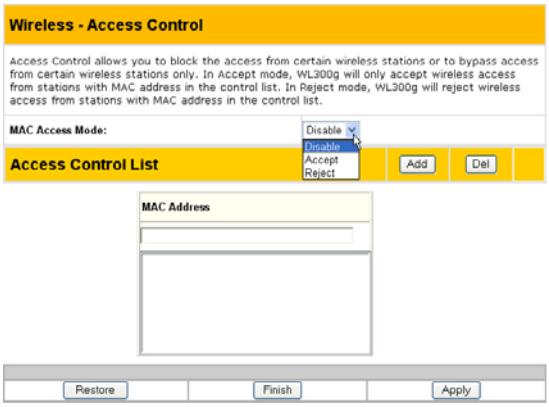
In this case, there are six ASUS Wireless Routers and they are linked as wireless bridges. Take one of them, named WB, as an example. WB is not in "AP Only" mode and "Connect to APs in Remote Bridge List" is set as "Yes", so it can connect to WB3. Meanwhile, "allow anonymous" is set as "Yes" or "Allow anonymous" is set as "No" but it has the MAC addresses of WB1, WB2, and WB4 in the "Remote Bridge List", so it can be connected by WB1, WB2, and WB4.

Wireless



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

Access Control



Pull down menu items:

Disable (no info required)

Accept (need to input information)

Reject (need to input information)

To add security, the ASUS Wireless Router has the ability to only associate with or not associate with wireless mobile clients that have their MAC address entered into this page.

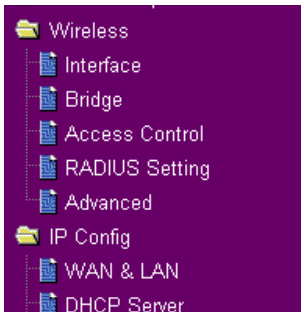
The default setting of "Disable" will allow any wireless mobile client to connect. "Accept" will only allow those entered into this page to connect. "Reject" will prevent those entered into this page from connecting.

Adding a MAC Address

To add a MAC address, enter the 12 hexadecimal characters into the white box next to "MAC Address:" and click the **Add** button. The MAC address will be placed in the control list below. Only a total of 31 MAC addresses can be entered into this page so determine which will be the lesser; those you wish to accept or those you wish to reject and click the appropriate "MAC Access Mode".

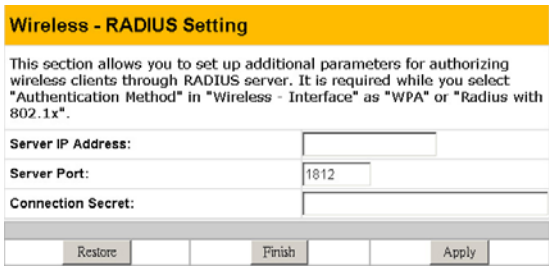
Note: Click the "Finish" button to save your new settings and re-start the ASUS Wireless Router or click "Save" and restart later.

Wireless



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

Radius Setting (WL500g/WL500g Deluxe)



This section enables you to set up additional parameters for connection with a RADIUS Server. Values are required for this page when the Authentication Method field in the Wireless - Interface screen are set as “WPA” or “Radius with 802.1x”. Refer to *Authentication Method* on page 32.

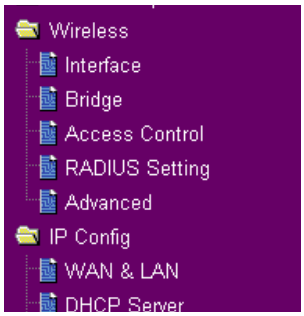
Server IP Address – specifies the IP address of the RADIUS server to use for 802.1X wireless authentication and dynamic WEP key derivation.

Server Port – specifies the UDP port number used by the RADIUS server.

Login Secret – specifies the password used to initialize a RADIUS connection.

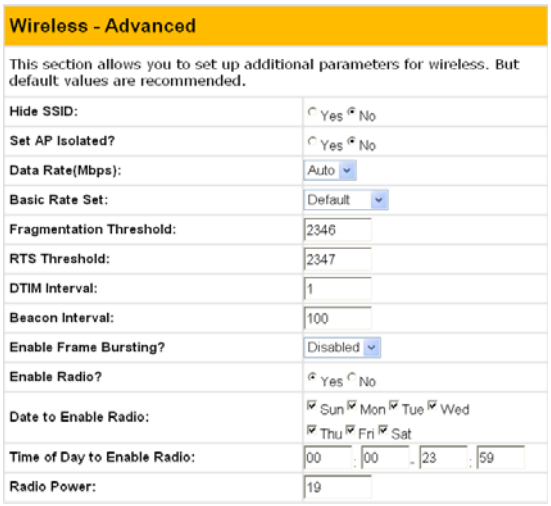
Note: A RADIUS server is used for remote user authentication and accounting. It is primarily used by Internet Service Providers, but can also be used on any network that needs a centralized authentication function for its workstations.

Wireless



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

Advanced



This section allows you to set up additional parameters for the wireless router function. We recommend that you use the default values for all items in this window.

AfterBurner (WL500g Deluxe only)

Enable AfterBurner: (WL500g Deluxe) - Set to Enable to increase performance for clients (such as WL100gx) that support this function.

Note: Your network speed will slow down if you have mixed 802.11g and Afterburner clients.

Hide SSID - By default, "No" is selected so that wireless mobile users can see your ASUS Wireless Router's SSID and join. If "Yes" is selected, your ASUS Wireless Router will not show in site surveys by wireless mobile clients and they will have to manually enter your ASUS Wireless Router's SSID. If you want to restrict access to "your" ASUS Wireless Router , this is a simple way to do it but for security reasons, don't forget to change the SSID to something other than "default".

Set AP Isolated (WL500g/WL500g Deluxe) - Selecting Yes to prevent wireless client from communicating with each other.

Data Rate (Mbps) (WL500g/WL500g Deluxe) - This field allows you to specify the transmission rate. Leave on "Auto" to maximize performance versus distance.

Wireless (Cont.)

Basic Rate Set (WL500g/WL500g Deluxe) - This field indicates the basic rates that wireless clients must support. Use "1 & 2 Mbps" only when backward compatibility is needed for some older wireless LAN cards with a maximum bit rate of 2Mbps.

Fragmentation Threshold (256-2346) – Fragmentation is used to divide 802.11 frames into smaller pieces (fragments) that are sent separately to the destination. Enable fragmentation by setting a specific packet size threshold. If there is an excessive number of collisions on the WLAN, experiment with different fragmentation values to increase the reliability of frame transmissions. The default value (2346) is recommended for normal use.

RTS Threshold (0-2347) – The RTS/CTS (Request to Send/Clear to Send) function is used to minimize collisions among wireless stations. When RTS/CTS is enabled, the router refrains from sending a data frame until another RTS/CTS handshake is completed. Enable RTS/CTS by setting a specific packet size threshold. The default value (2347) is recommended.

DTIM Interval (1-255) (WL500g/WL500g Deluxe) – DTIM (Delivery Traffic Indication Message) is a wireless message used to inform clients in Power Saving Mode when the system should wake up to receive broadcast and multicast messages. Type the time interval in which the system will broadcast a DTIM for clients in Power Saving Mode. The default value (3) is recommended.

Beacon Interval (1-65535) – This field indicates the time interval in milliseconds that a system broadcast packet, or beacon, is sent to synchronize the wireless network. The default value (100 milliseconds) is recommended.

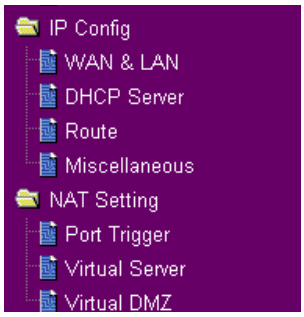
Enable Frame Bursting? (WL500g/WL500g Deluxe) – This field allows you to enable frame-bursting mode to improve performance with wireless clients that also support frame-bursting.

Enable Radio? (WL500g/WL500g Deluxe) - Selecting "Yes" enables the wireless function during user-defined dates and times. Wireless users will not be able to connect on non-selected dates and times.

Date to Enable Radio (WL500g/WL500g Deluxe) - This field defines the dates that the wireless function will be enabled.

Time to Enable Radio (WL500g/WL500g Deluxe) - This field defines the time range that the wireless function will be enabled on each of the selected dates.

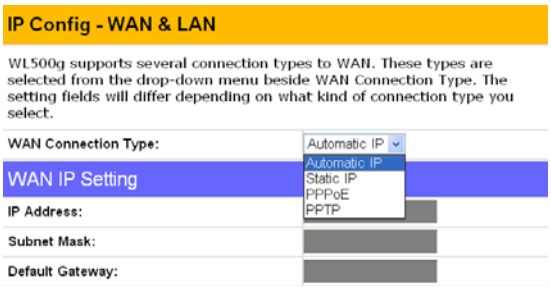
IP Config



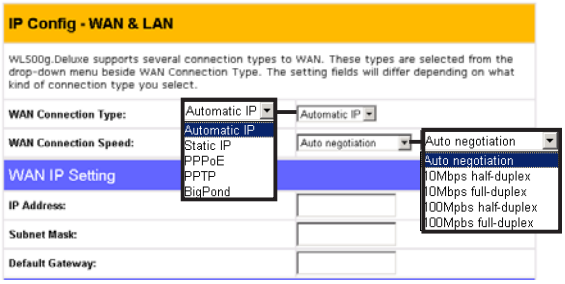
WAN & LAN

Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

WL500g



WL500g Deluxe



WAN Connection Type

The ASUS Wireless Router supports four connection types to WAN, including Static IP, PPPoE, PPTP and Automatic IP. WL500g Deluxe includes “Big Pond” (Telstra) in “WAN Connection Type” and “WAN Connection Speed”. The WAN setting fields in this page will differ depending on what kind of connection type you select.

WAN Connection Speed (WL500g Deluxe)

You can use the pull-down menu to change the WAN connection speed if you do not want to use “Auto negotiation”.

WAN IP Setting

These three items are editable only when **WAN Connection Type** is set as **Static IP or PPTP**.

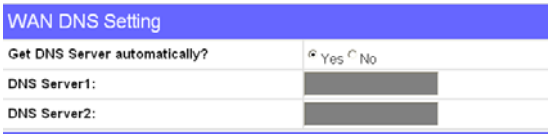
IP Address - This is IP address of the Wireless Router as seen on the remote network. If you leave it blank, the router will get IP address from DHCP Server automatically.

Subnet Mask - This is Subnet Mask of the Wireless Router as seen on the remote network.

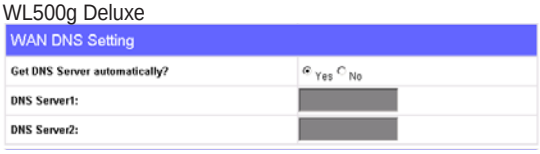
Default Gateway - This is the IP address of default gateway that allows for contact between the Wireless Router and the remote network or host.

IP Config (Cont.)

WL500g



WL500g Deluxe



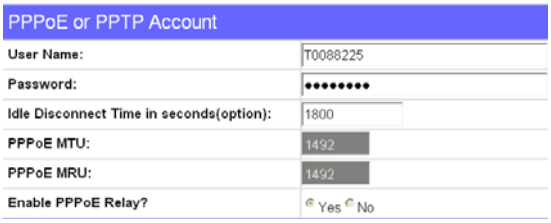
WAN DNS Settings

You can set the DNS setting using any **WAN Connection Type** (Static IP, PPPoE, or Automatic IP). WL500g Deluxe includes "Big Pond" and "WAN Connection Speed" (not shown here).

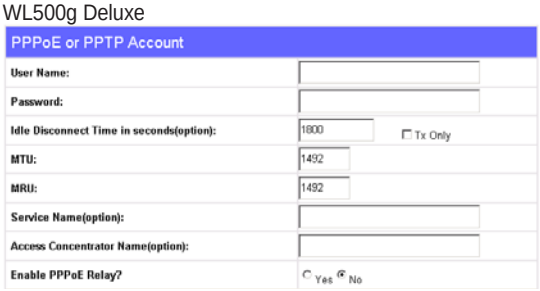
Get DNS Server automatically? - Normally this is automatic and you would answer "No" to the question about manually assigning DNS. If you are given instructions from your ISP to enter DNS addresses, select "Yes" to manually assigning DNS.

DNS Server 1/DNS Server 2 - If you are given instructions from your ISP to enter DNS addresses, select "Yes" to manually assigning DNS and enter the IP addresses here.

WL500g



WL500g Deluxe



PPPoE or PPTP Account

These three items are editable only when **WAN Connection Type** is set as **PPPoE or PPTP**.

User Name - The name of your Internet account provided by your ISP. Some ISPs work with the entire account name along with the hosting domain (such as yourname@yourdomain.com) and others require that you enter only the account name (yourname).

Password - Enter the password for your Internet account.

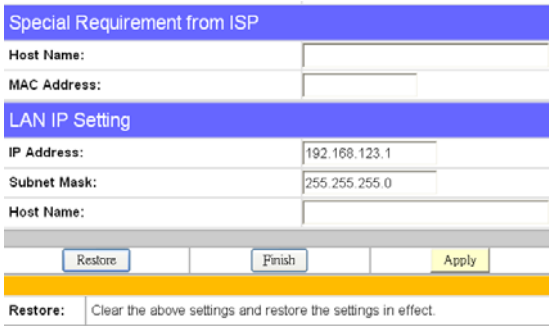
Idle Disconnect Time in seconds (option) - Enter the number of seconds of inactivity to disconnect you from your ISP.

PPPoE MTU - This field is shows the Maximum Transmission Unit (MTU) of PPPoE packets.

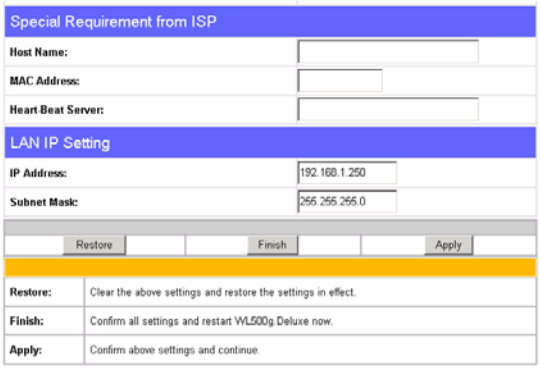
PPPoE MRU - This field is shows the Maximum Receive Unit (MTU) of PPPoE packets.

Enable PPPoE Relay - Enable PPPoE relay allows stations in LAN to setup individual PPPoE connections that are passthrough NAT. It is also known as PPPoE multi-session.

WL500g



WL500g Deluxe



Special Requirement from ISP

The following two items may be specified by some ISPs. Check with your ISP and fill them in if required.

Host Name – Fill this in if required by your ISP.

MAC Address – Fill this in if required by your ISP.

Heart-Beat Server (WL500g Deluxe) - Fill in the server name or server IP address when you are connecting with BigPond.

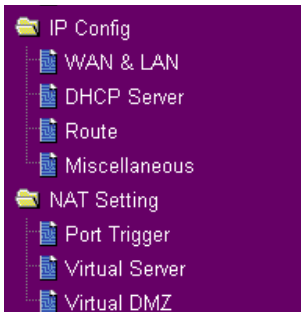
LAN IP Setting

IP Address - This is IP address of the Wireless Router as seen in your local network. The default value is 192.168.1.1.

Subnet Mask - This is Subnet Mask of the Wireless Router as seen in your local network. The default value is 255.255.255.0.

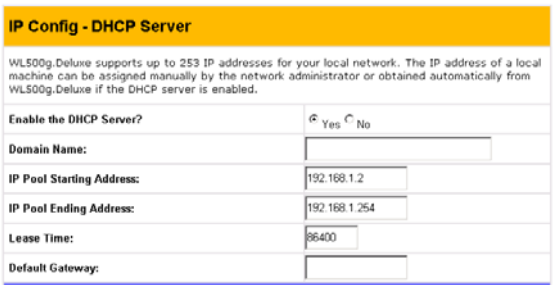
Host Name - This is Host Name of the Wireless Router as seen in your local network.

IP Config (Cont.)



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

DHCP Server



DHCP (Dynamic Host Configuration Protocol) is a protocol defined for dynamically assigning IP addresses to computers in a network. Enabling the DHCP server allows the Wireless Router to assign IP address to PC or NB that is set to obtain an IP address automatically. The ASUS Wireless Router supports up to 254 IP addresses for your local network.

Enable the DHCP Server? – This field allows you to enable or disable DHCP server in the Wireless Router. The default value is "Yes"

Domain Name - This field indicates the Domain Name to provide to clients that request IP Address from DHCP Server.

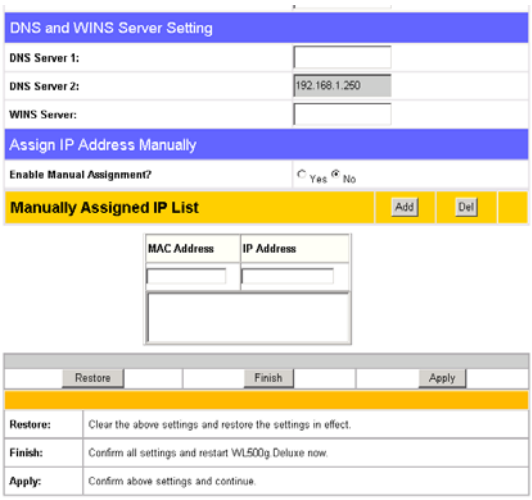
IP Pool Starting Address - This field specifies the first address in the pool to be assigned by the DHCP server in your local network.

IP Pool Ending Address - This field specifies the last address in the pool to be assigned by the DHCP server in your local network.

Lease Time - This field specifies the amount of connection time a network user be allowed with their current dynamic IP address.

IP Config (Cont.)

DHCP Server (Cont.)



DNS and WINS Server Setting

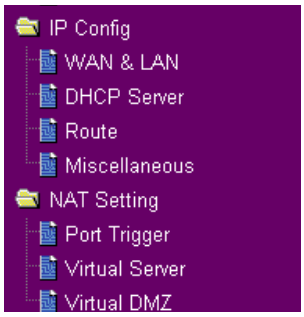
DNS Server 1/DNS Server 2 - This field indicates the IP address of DNS to provide to clients that request IP Address from DHCP Server. You can leave it blank, then the Wireless Router will process the DNS request.

WINS Server - The Windows Internet Naming Service manages interaction of each PC with the Internet. If you use a WINS server, enter IP Address of server here.

Assign IP Address Manually (WL500g Deluxe)

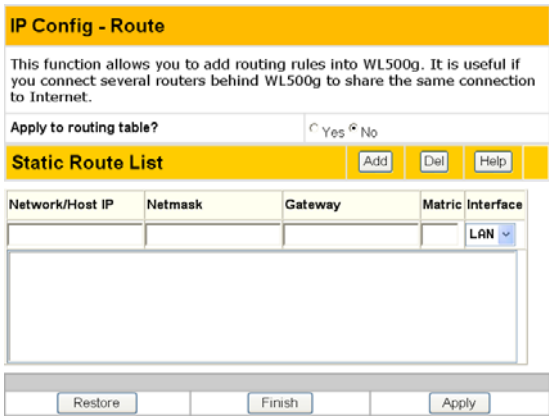
Enable Manual Assignment - Selecting "Yes" allows you to assign a static IP address to the PC that has the IP address and MAC address mapping set in the "Manually Assigned IP List".

IP Config (Cont.)



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

Static Route



A route is a possible path from a given host to another host or destination. If you append one or more routers behind the ASUS Wireless Router to share the same connection to Internet, you need to insert predefined rules of route, called static route, into the ASUS Wireless Router. Then the ASUS Wireless Router could know which router the packets from Internet with different destination IP address can deliver to.

Apply to routing table? – Selecting "Yes" applies all those rules in Static Route List into routing table.

Static Route List

Network/Host IP –It stands for the destination IP address of network or host. So it could be an IP address, such as 192.168.1.1 or a range of IP address, such as 192.168.0.0 or 192.0.0.0. If a packet with destination IP address that match to this field or within the range of this field, it will route to the device set in Gateway field.

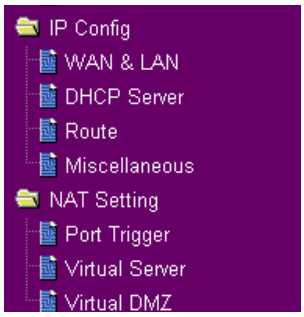
Netmask – It stands for the netmask of an added network route.

Gateway - This field stands for the IP address of gateway where packets are routed. The specified gateway must be reachable first. It means you have to set up a static route to the gateway beforehand.

Metric - Metric is a value of distance for the network and used to decide the priority of route rules.

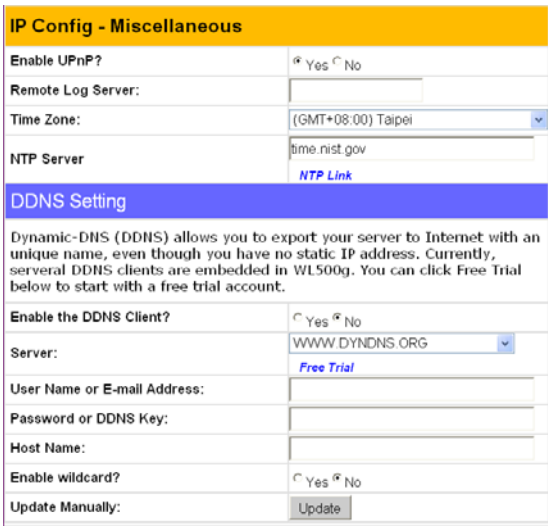
Interface - This field decide which network interface this routing rule is applied to.

IP Config (Cont.)



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

Miscellaneous



Enable UPnP – Selecting "Yes" to enable UPnP, it will allow your Wireless Router to be found automatically by systems, such as Windows XP. And it allows these systems to automatically configure the Wireless Router for various Internet applications, such as gaming and video conferencing.

Remote Log Server – This feature allows you to assign a remote server to record log messages of the Wireless Router. If you leave it blank, system will record up to 1024 messages on the Wireless Router only.

Time Zone – This field indicates time zone where you are locating in.

NTP Server – NTP Server is a time server on the Internet that allows the Wireless Router to synchronize its system time to. You can keep the default IP address or set to the IP address of an NTP server that you prefer.

DDNS Setting

Dynamic - DNS (DDNS) allows user to export host name to Internet through DDNS service provider. Each time the ASUS Wireless Router connect to Internet and get an IP address from ISP, this function will update your IP address to DDNS service provider automatically, so that any user on Internet can access the ASUS Wireless or servers behind it through a predefined name registered in DDNS service provider.

Enable the DDNS Client? – Selecting "Yes" to enable DDNS update, then each time your IP address to WAN is changed, the information will be updated to DDNS service provider automatically.

IP Config (Cont.)

Server – Currently, clients connect to DynDNS or TZO are embedded in the Wireless Router. You can click Free Trial link behind this field to start with a free trial account.

User Name or E-Mail Address – This field is used as an identity to log in Dynamic-DNS service.

Password or DDNS Key –This field is used as a password to log in Dynamic-DNS service.

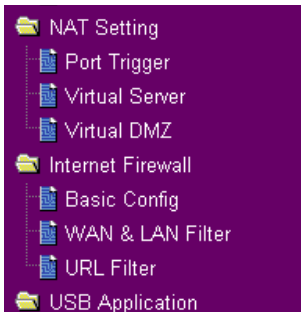
Host Name –This field represents the Host Name you register to Dynamic-DNS service and expect to export to the world.

Enable wildcard? – This field determines if domain name with wildcard is also redirected to your IP address.

Update Manually –This button allows you to update DDNS database manually. It is available only when automatic DDNS update failed. You can get current status of DDNS update from System Log.

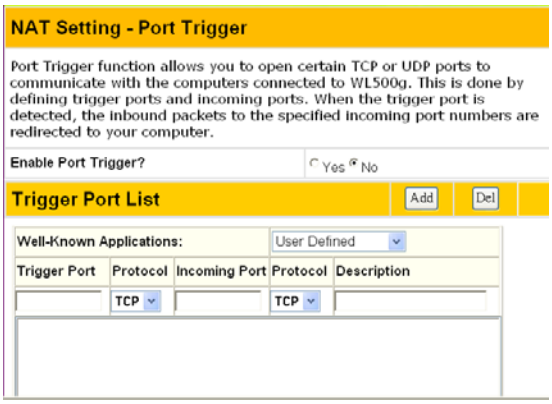
Note: Currently, clients connected to DynDNS or TZO are embedded in ASUS Wireless Router. You can click Free Trial link behind each DDNS service provider to start with a free trial account.

NAT Setting



Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS wireless router. Tips are given when you move your cursor over each item.

Port Trigger



This function allows you to open certain TCP or UDP ports to communicate with the computers connected to the WL500g. This is done by defining trigger ports and incoming ports. When the trigger port is detected, the inbound packets to the specified incoming port numbers are redirected to your computer.

Enable Port Trigger? - Selecting "Yes" applies all the rules in the Port Trigger List to the Wireless Router.

Port Trigger List

Trigger Port - This field allows you to enter the port or port range of outing packets that will trigger port redirect.

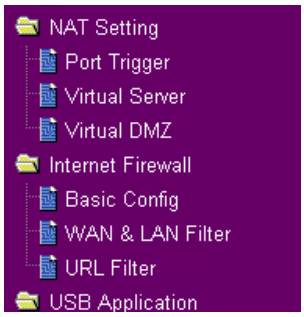
Protocol - This field allows you to select the protocol of outgoing packets.

Incoming Port - This field allows you to enter the port or port range of incoming packets that will be redirected to your computer.

Protocol - This field allows you to select the protocol of incoming packets.

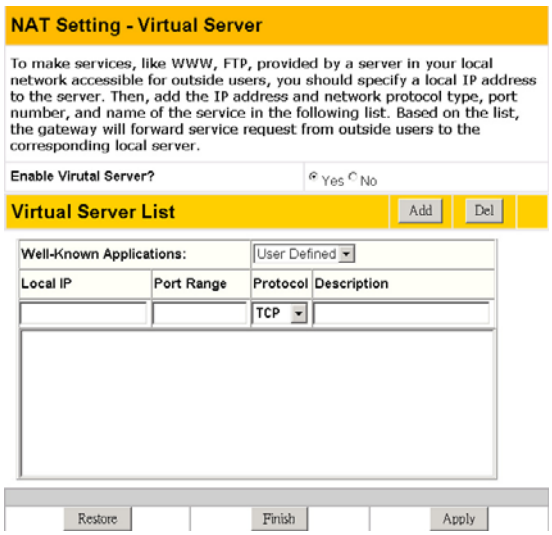
Description - This field keeps information on what the rule is used for.

NAT Setting (Cont.)



Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS wireless router. Tips are given when you move your cursor over each item.

Virtual Server



To make services, like WWW, FTP, provided by a server in your local network accessible for outside users, you should specify a local IP address to the server. Then, add the IP address and network protocol type, port number, and name of the service in the following list. Based on the list, the gateway will forward service request from outside users to the corresponding local server.

Enable Virtual Server?– Selecting "Yes" applies all those rules in Virtual Server List into the Wireless Router.

Virtual Server List

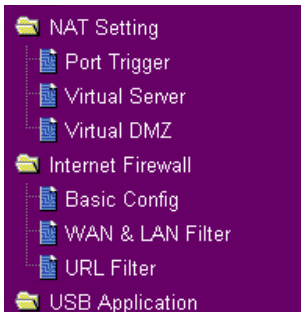
Local IP – This field stands for the destination IP address that you like to redirect the matched packet to.

Port Range– This field stands for a port number or a range of ports. Once the destination port of incoming packets matches the port or within the port range, the incoming packets will be redirect to IP address specified in **Local IP.**

Protocol– This field stands for protocol of incoming packets.

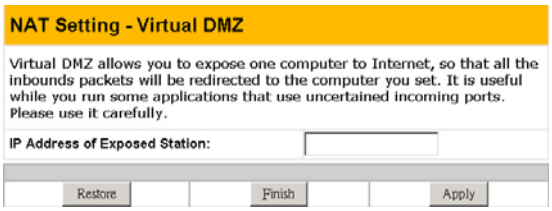
Description –This field allows you to record what this rule is used for.

NAT Setting (Cont.)



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

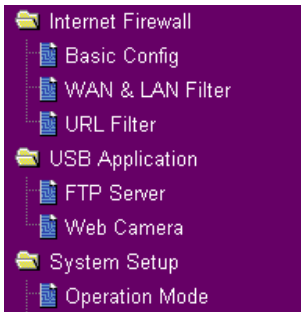
Virtual DMZ



Virtual DMZ allows you to expose one computer to Internet, so that all inbound packets will be redirected to the computer you set. It is useful while you run some applications that use uncertain incoming ports. Please use it carefully.

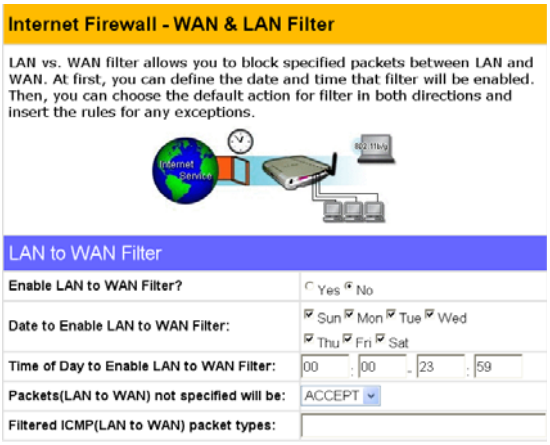
IP Address of Exposed Station – This field stands for the IP address of the computer that you want to expose to Internet.

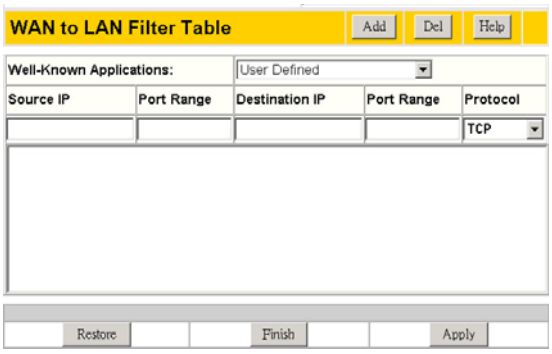
Internet Firewall



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

LAN & WAN Filter





WAN to LAN Filter

LAN & WAN filter allows you to block specified packets between LAN and WAN. At first, you can define the date and time that filter will be enabled. Then, you can choose the default action for filter in both directions and insert the rules for any exceptions.

Date to Enable WAN to LAN Filter – This field defines the dates that WAN to LAN filter will be enabled.

Time of Day to Enable WAN to LAN Filter – This field defines the time interval that WAN to LAN filter will be enabled.

Packets (LAN to WAN) not specified will be – This field defines those LAN to WAN packets which are not specified in WAN to LAN Filter Table will be accepted or dropped.

Filtered ICMP (LAN to WAN) packet types – This field defines a list of LAN to WAN ICMP packets type that will be filtered. For example, if you would like to filter Echo (type 8) and Echo Reply (type 0) ICMP packets, you need to enter a string with numbers separated by blank, such as, "0 5".

Internet Firewall (Cont.)

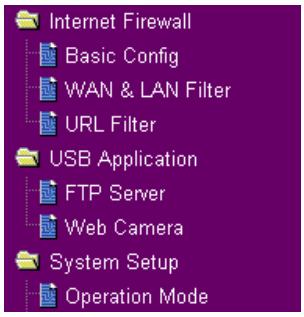
WAN to LAN Filter Table

Source/Destination IP Address - For source or destination IP address, you can input a specific IP address, such as "192.168.122.1", or IP addresses within one subnet, such as "192.168.123.*", or "192.168.*.*", or all IP addresses as "*".

Source/Destination Port or Port Range - For source or destination port range, you can input a specific port, such as "95", or ports within a range, such as "103:315", ">100", or "<65535".

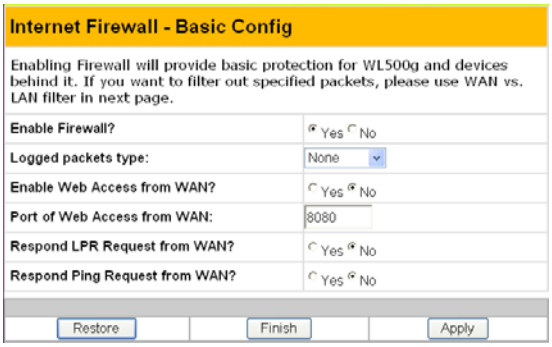
Protocol – This field indicates the protocol type of packets this rule like to filer.

Internet Firewall (Cont.)



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

Basic Config



Enable Firewall? – Selecting "Yes" enables firewall to apply general SPI rules.

Logged Packet Type – This field indicates what kind of packets between WAN and LAN will be logged.

Enable Web Access from WAN – This field allows you to specify the port used to access Web server of the ASUS Wireless Router from Internet. The default value is 8080. If you know the WAN IP address of the Wireless Router, open your web browser and enter the IP address. For example:

http://140.113.201.1:8080

If you enable the DDNS with an account, please open your web browser and enter the host name registered in DDNS service provider. For example:

http://wl500g.homelinux.org:8080

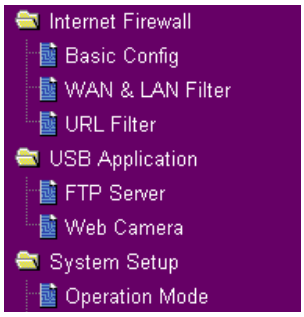
Note: The default web browser port 80, is reserved for the Web server within your local network.

Port of Web Access from WAN - This field allows you to specify the port used to access the Web server of the ASUS Wireless Router from the Internet. The default value is 8080.

Responds LPR Request from WAN - This field allows you to decide if you like to respond to LPR requests from Internet.

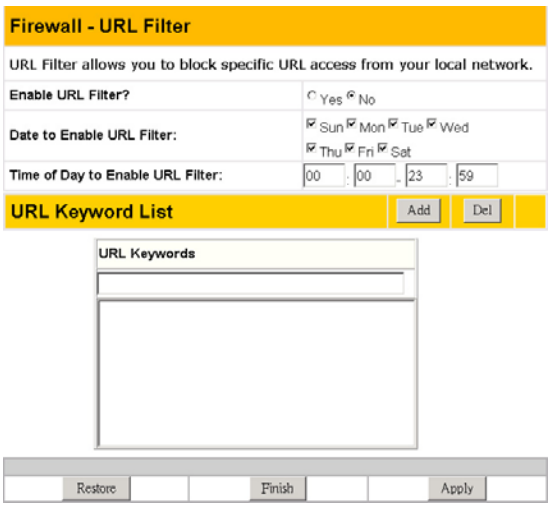
Responds Ping Request from WAN - This field allows you to decide if you like to respond to ping requests from Internet.

Internet Firewall (Cont.)



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

URL Filter



URL Filter allows you to block specific URL access from your local network.

Enable URL Filter? – Selecting "Yes" enables URL Filter and applies rules in URL Keyword List into the Wireless Router.

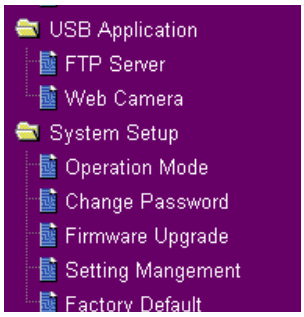
Date to Enable URL Filter– This field defines the dates that URL filter will be enabled.

Time of Day to Enable URL Filter – This field defines the time interval that URL filter will be enabled**.**

URL Keyword List

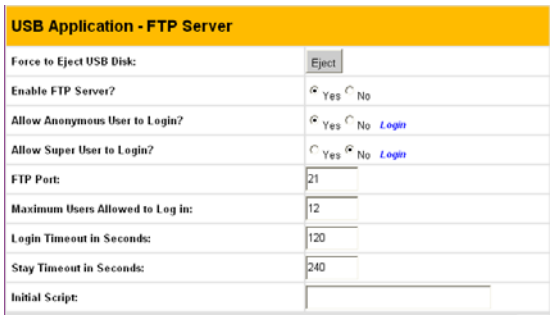
URL Keyword – If the URL filter is enabled and URL access contains the keyword specified in the URL Keyword List, the DNS mapping of this URL would be blocked.

USB Application



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

FTP Server



FTP Server Mode – The ASUS Wireless Router features an embedded FTP server for USB storage. Before using the FTP server, ensure that your USB device fulfils the following requirements.

- The FTP server only works with supported USB devices. Supported devices are listed on the ASUSTeK Web site at http://www.asus.com.
- The ASUS router supports read/write functions for FAT or FAT32 file systems and read-only functions for NTFS (NT file system) with compressed or uncompressed files. **Encrypted files are not supported.** If your USB storage device is formatted as a FAT or FAT32 file system, configure the FTP server to work from the first partition (partition 0).
- Devices with multi-partitions will be detected; however, only super users and anonymous users can access devices configured with multi-partitions. Other users can only access the directory /ftp_pub or /ftp_pvt/username/ in partition 0.

Note: WL500g/b only supports USB Storage recognized as a "Mass Storage Device". It does not support other types of USB to IDE devices. Most compatible USB storage devices are plug and play; you do not have to power off the router when connecting these devices. However, USB external storage cases for IDE devices require you to restart the router after you connect them.

The following describes the available fields in the FTP Server screen.

Force to Eject USB Disk – When this item is enabled, pressing the "Eject" button will allow the router to write the cached data back to the USB disk before you remove the USB disk. Remove the USB Disk only after you press the button and get the refreshed Web page. Otherwise, you will lose the cached data.

USB Application (Cont.)

Enable FTP Server? – Select Yes to enable the ftp server daemon when you have connected USB storage to the router.

Allow Anonymous User to Login? – Select Yes to enable an anonymous user account with all access rights. The User name is *anonymous* or *ftp*. No password is required.)

Login as Anonymous: click ***Login*** to log in to this FTP Server with an Anonymous User account to access a Net Disk.

Allow Super User to Login? – Select Yes to enable a super user account with all access rights. The user name and password are the same as the network administrator.

Login as Super User: click ***Login*** to log in to this FTP Server with Super User account to access a Net Disk.

FTP Port – Type the port number to be used for the FTP server. The default is 21.

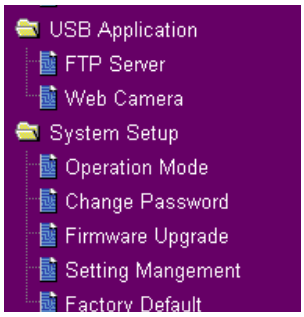
Maximum Users Allowed to Log in – Type the maximum number of users allowed to simultaneously log in to the server.

Login Timeout in Seconds – This field enables you to terminate user connections after users have been connected for the specified period of time.

Stay Timeout in Seconds –This field enables you to terminate user connections after users log in but stay idle for the specified period of time.

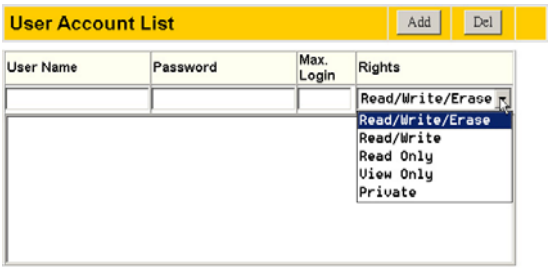
Initial Script - After inserting a USB disk, the wireless router will look for the initial script as entered here in the root directory of the USB disk and execute it. Leaving this blank will disable this function.

USB Application (Cont.)



User Account List

The User Account List enables you to create a user profile, set the user password, the maximum number of times the user can log in, and user access rights



.**User Name** – Type the user name for the FTP account.

Password – type the password of the FTP account. Leave the field blank or type an asterisk (*) for anonymous access.

Note: The FTP Server only supports "No encrypted password "protection. Clients connecting with MD4 or MD5 will not be allowed.

Max. Login – This field indicates the maximum logins allowed with this FTP account. Leave the field blank or type zero (0) to allow unlimited login.

Rights – This field indicates the rights assigned to this FTP account:

Read/Write/Erase: Users attached to this account can access the USB storage device, and read, write, and erase files on the drive.

Read/Write: Users attached to this account can access the USB storage device, and read, and write to the drive; however, users cannot erase files on the drive.

Read Only: Users attached to this account can access the USB storage device, and read files on the drive; however, users cannot write to the drive or erase files.

View Only: Users attached to this account can access the USB storage device, and view files only.

Private: Users attached to this account can access a private directory in the USB storage (partition1:/ftp_pvt/User Name), and is allowed all access privileges (Read/Write/Erase/View). Please see User Account and Privileges for details.

USB Application (Cont.)

User Account and Privileges

If you have a USB disk with 3 partitions*, partition 1 is FAT32, partition 2 is FAT, and partition 3 is NTFS, the FTP directories will be constructed as follows:

\	:	Files and directories in partition 1. “Super user” or “anonymous” are allowed to access.
\partition1	:	Files and directories in partition 2. “Super user” or “anonymous” are allowed to access.
\partition2	:	Files and directories in partition 3. “Super user” or “anonymous” are allowed to read only.
\ftp_pub	:	User rights set as Read/Write/Erase, Read/Write/Read Only, or View Only, are allowed to share this directory.
\ftp_pvt	:	User rights set as Private, are only allowed to access the directory with the user name.

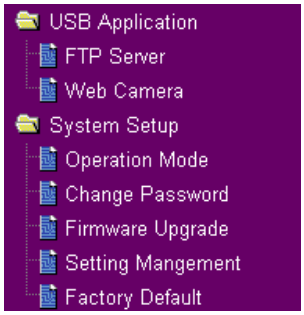
The account’s root directory and its access rights on the FTP server are defined as follows:

Account	Condition	Root Directory	Rights
Anonymous	“Allow Anonymous User to Login” is enabled	\	Read/Write/Erase
Super User	“Allow Super User to Login” is enabled	\	Read/Write/Erase
[user]	Rights is set as “Read/Write/Erase”	\ftp_pub	Read/Write/Erase
[user]	Rights is set as “Read/Write”	\ftp_pub	Read/Write
[user]	Rights is set as “Read Only”	\ftp_pub	Read Only
[user]	Rights is set as “View Only”	\ftp_pub	View Only
[user]	Rights is set as “Private”	\ftp_pvt\[user]	Read/Write/Erase

*** WL500g/b can manage up to 6 partitions, but if NTFS is used on partition 1, the system will not be able to create related system directories, such as ftp_pub or ftp_pvt for the FTP server. In this case, only “anonymous” or “super user” is allowed to read data in partition 1, however they will not be able to see any other partitions.**

USB Application (Cont.)

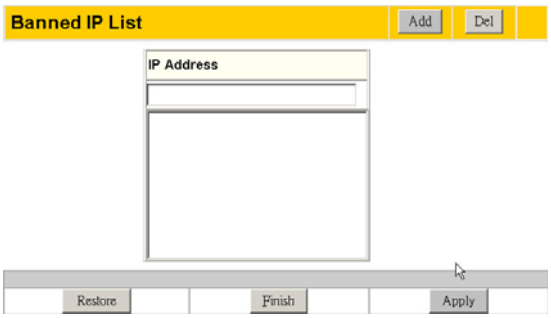
Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.



Banned IP List

This screen enables you to enter IP addresses that you do not want users connected to the router to access.

IP Address – This field indicates the IP address you want to ban. Enter a specific IP address, such as *192.168.1.5*, or IP addresses within one subnet, such as *192.168.*.*, or *192.168.1.**.



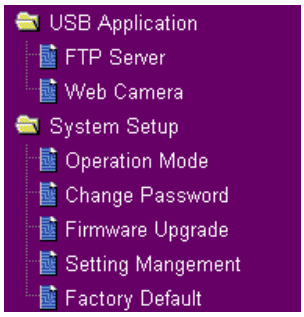
Client Setting

Users can connect to the FTP server using a Web based browser such as IE or Netscape. To connect to the server, type the FTP URL in the browser address bar: ftp://username@[IP address or host name of the router]/

Using other FTP-protocol programs, you can connect to the FTP Server using either PASV or PORT.

Note: The FTP Server only supports "No encrypted password" protection. Clients connecting with MD4 or MD5 will not be allowed access.

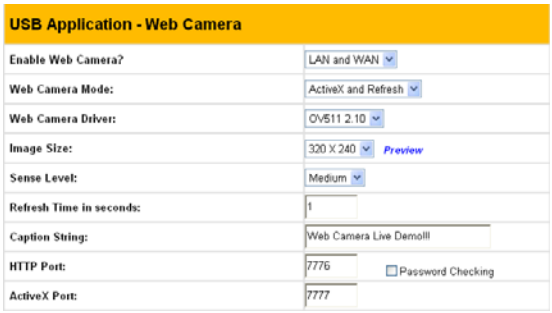
USB Application (Cont.)



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Wireless Router. Tips are displayed when you move your cursor over an item.

Note: Before using the Web Camera, refer to USB Web Camera support listed on the ASUSTeK Web site at the following address: http://www.asus.com.

Web Camera



The ASUS Wireless Router implements several applications for a USB Web Camera, enabling you to capture images and send them over the Internet.

Enable Web Camera – Selecting LAN Only enables Web Camera for LAN users. Selecting LAN and WAN enables Web Camera for both LAN users and WAN users through firewall.

Web Camera Mode – Select the appropriate camera mode from the drop down list. ActiveX Only enables users to execute ActiveX clients on an Windows IE platform to get the best image quality. ActiveX and Refresh enable users to get a basic image on both IE and other browsers. Refresh Only will force users both IE and other browser to have still images refreshed in a specified interval.

Web Camera Driver – When you plug a supported Web Camera into the wireless router, the appropriate driver is selected automatically. Refer to the USB Web Camera support list on the following ASUSTeK Web site for supported Web Cameras and chipset vendors: http://www.asus.com.

Image Size – Select the image size from the drop down list. 320 x 240 provides a larger image. 160 x 120 provides faster transmission. Click ***Preview*** to see how your web camera appears.

Sense Level – This field indicates the sensitivity at which image movement is detected.

USB Application (Cont.)

Refresh Time in Seconds – This field indicates the time interval in seconds in which the system reloads images. The range of values is 1~65535.

Caption String – This field indicates the text string that is displayed on your Webcam page.

HTTP Port – This field indicates the port that http server listens on to communicate. For example, by default, you can connect to your web camera by using http://192.168.1.1:7776 without password checking. (The password checking field is unchecked.)

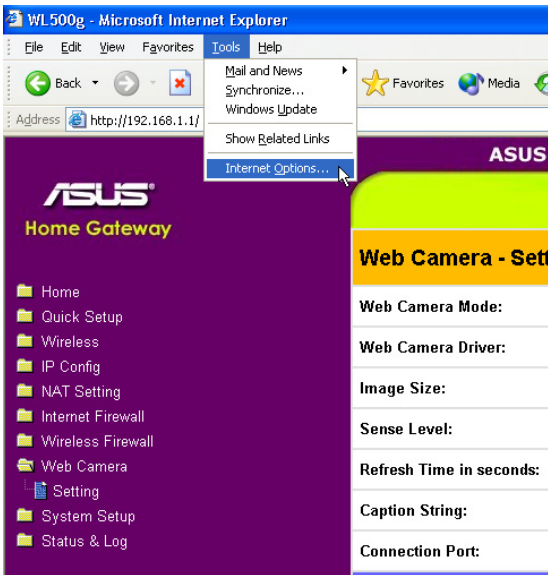
ActiveX Port – This field indicates the port that server listens on to communicate with Active X clients.

USB Application (Cont.)

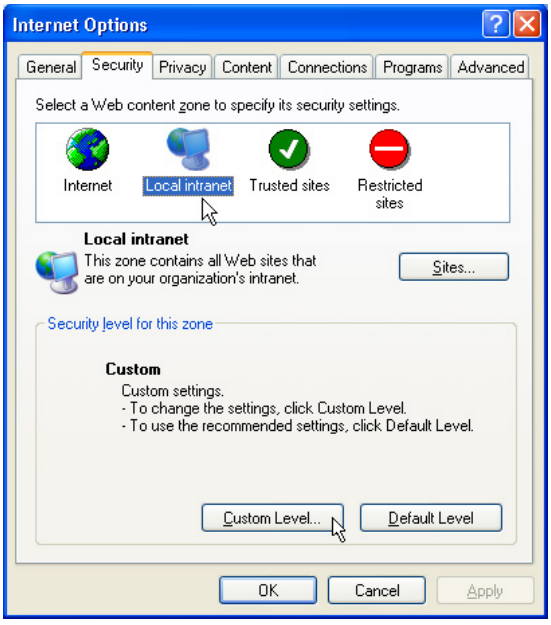
Web Camera - Client Setting

For clients that use Netscape or other browser that don't support ActiveX, you don't need additional setting to view an image in browser. For client that use IE 5.0 or above, you need to set IE to get a better support on ActiveX as following:

1. Open Internet Explorer 5.0 or above.
2. Select **Internet Options** | **Security** | **Local Intranet** | **ActiveX Controls.**
3. Check that your settings are as follows:

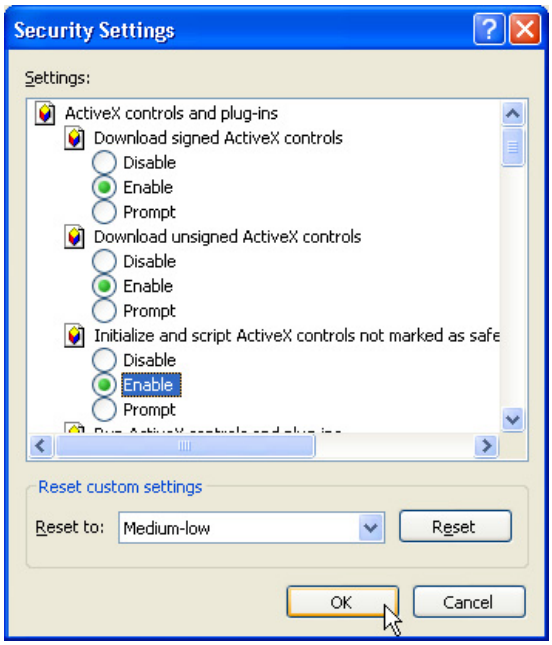


Go to **Internet Options** from the "Tools" menu.

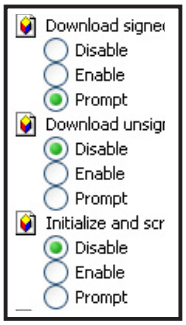


Click **Local Intranet** settings and click **Custom Level**.

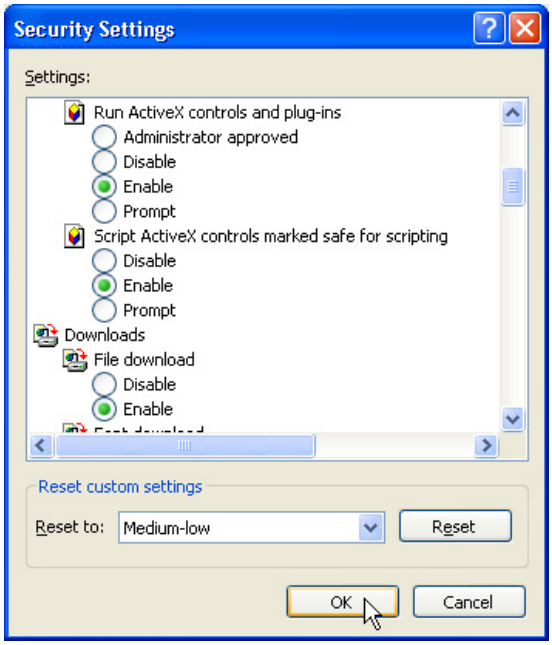
USB Application (Cont.)



Enabled the three ActiveX controls and plug-ins.



By default, these items are disabled and will prevent the ASUS Wireless Router's web camera function from working.



By default, these three items should already be enabled. Enable them if they have been changed.

Click **Yes** to change the security settings.

USB Application (Cont.)

Web Camera vs. DDNS

Cooperating with DDNS, your can monitor your home environment through Internet, even through dynamic WAN IP address is applied.

Security Mode Setting

This function allows you to monitor your environment through Web Camera. If there is any motion detected, WL500g will try to alert you by means of email.

Enable Security Mode? – Selecting "Yes" enables the Security Function on the date and time you set below.

Date to Enable Security Mode – This field defines the dates that Security Mode will be enabled.

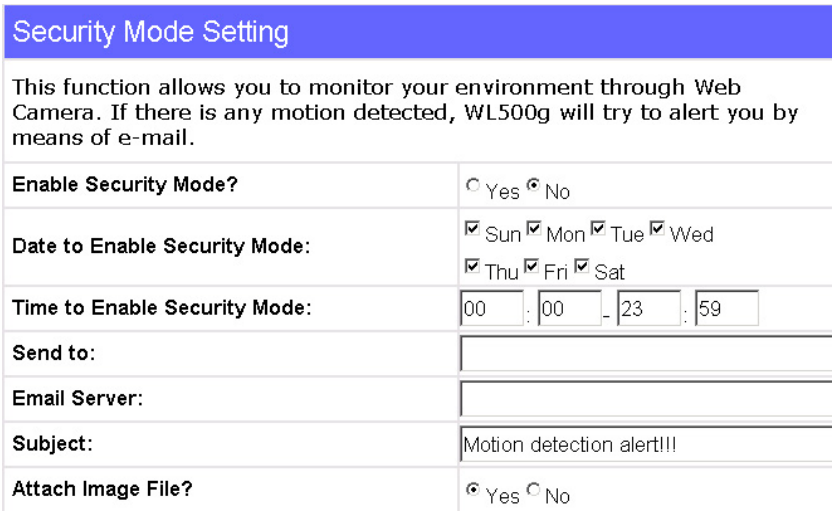
Time to Enable Security Mode – This field defines the time interval that Security Mode will be enabled.

Send to – This field indicates the email address you like to send to.

Email Server – This field indicates the email server where you like to deliver your email to. If you leave this field blank, the Wireless Router will find a Mail Exchanger from your email address in **Send to** field.

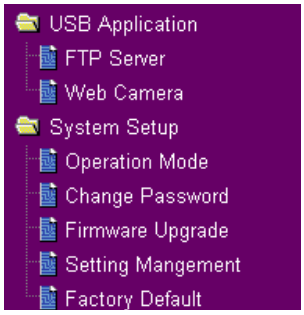
Subject –This field allows you to edit subject of email.

Attach Image File? –This field allows you to attach detected image file into email.



USB Application (Cont.)

Remote Monitor Setting

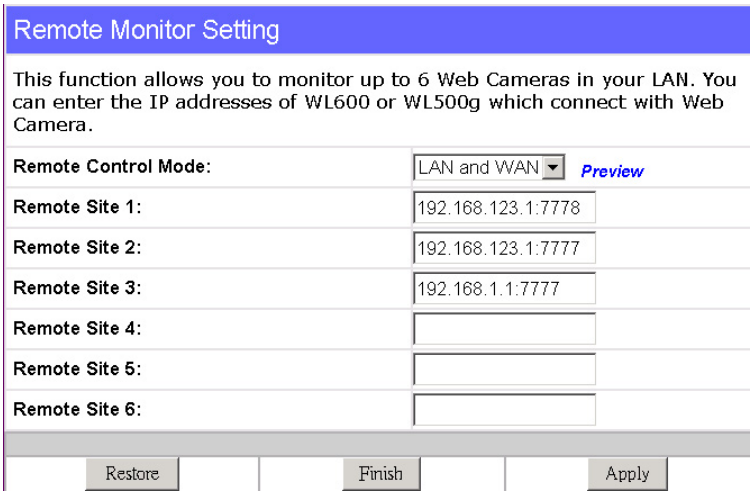


This function allows you to monitor up to 6 Web Cameras in your LAN. You can enter the IP addresses of WL500g, WL500b or WL600, which connect with Web Camera.

Remote Control Mode – Selecting LAN Only you can only monitor within LAN environment. To allow WAN users viewing Web Camera in your LAN, please set up Virtual Server rules in the router acting as the gateway for each router in your LAN plugging with Web Camera.

Note: When enabling "LAN and WAN" remote control in the Wireless Router, packets from the Internet with destination ports 8081 to 8086 will be forwarded to the WL500g/b set in Remote Control fields. To make sure packets from the WL500g/b can be routed back to the Internet, you should set a static route entry in the WL500g/b with the same gateway IP address as the IP address of the Wireless Router.

Remote Site 1-6 – This field stands for the IP address and port number of Remote Site. It should be filled with "[IP Address]:[Connection Port]".

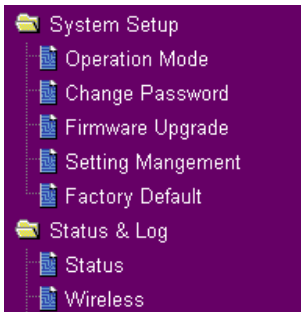


Preview

Click **Preview** behind **Remote Control Mode** to see the view of all the web camera sites you set in Remote Site.

Note: WL500g/b supports USB hub functionality. But, you are not recommended to run more than one USB applications on WL500g/b at the same time. It may run out of memory sometimes.

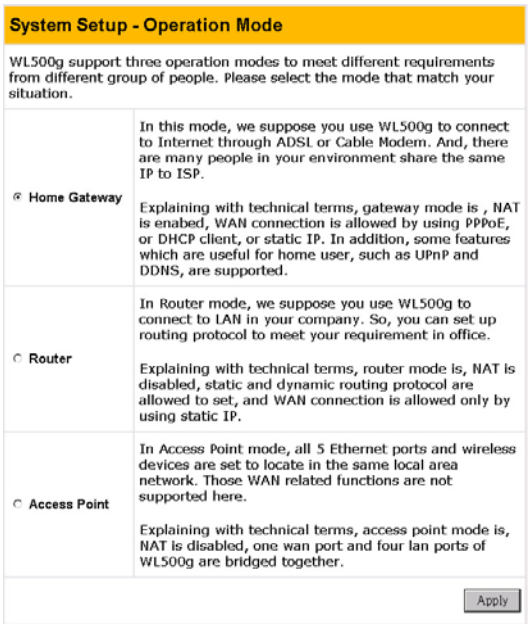
System Setup



Click this item on the menu to reveal a sub menu. Follow the instructions to setup the Wireless Router. Tips are given when you move your cursor over each item.

Operation Mode

The ASUS Wireless Router supports three operation modes to meet different requirements. Please select the mode that matches your networking requirements.



Home Gateway

In Home Gateway mode, the WAN port is assumed to attach to the Internet via a Cable or DSL modem. This allows several wireless clients and PC attached to LAN ports to share the Internet connection to ISP.

Technically, gateway mode is, NAT is enabled, WAN connection is allowed by using PPPoE, or DHCP client, or static IP. In addition, some features, which are useful for home user, such as UPnP and DDNS, are supported.

Router (WL500g/WL500g Deluxe)

In Router mode, we suppose you use the Ethernet port to connect to LAN in your company. So, you can set up routing protocol to meet your requirement in office.

Technically, router mode is, NAT is disabled, static and dynamic routing protocol are allowed to set, and WAN connection is allowed only by using static IP.

Access Point

In Access Point mode, the ASUS Wireless Router acts as a bridge between the PC attached to all Ethernet ports (LAN) and the clients on the wireless LAN (WLAN). Both the LAN and WLAN will be on the same IP subnet, sharing the same address range. The internal NAT is disabled in this mode

Technically, access point mode is, NAT is disabled, one wan port and four LAN ports are bridged together.

By default, the ASUS Wireless Router operates in Access Point mode.

System Setup (Cont.)

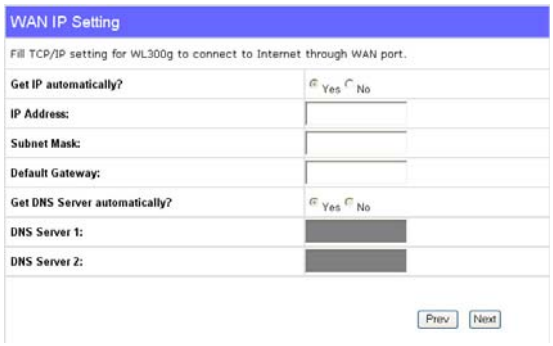
Router Mode (WL500g/WL500g Deluxe)

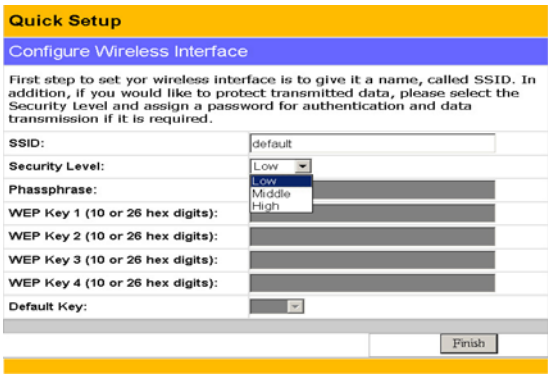
After selecting “Router” mode and clicking “Apply”, you will enter the “Quick Setup” page of the Router mode. Follow the instructions to setup the ASUS Wireless Router.

Note: The Wireless, IP Config, Internet Firewall, Wireless Firewall and Web Camera settings in Router Mode are the same as the settings in Home Gateway Mode. To learn more about these settings, please refer to the Home Gateway Mode in this user’s manual.

Quick Setup in Router Mode

After selecting “Router” mode and clicking “Apply”, you will enter the “Quick Setup” page of the Router mode. Follow the instructions to setup the ASUS Wireless Router as a Router.





If you would like to perform other settings, click the item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Wireless Router. Tips are given when you move your cursor over each item.

System Setup (Cont.)

AP Mode

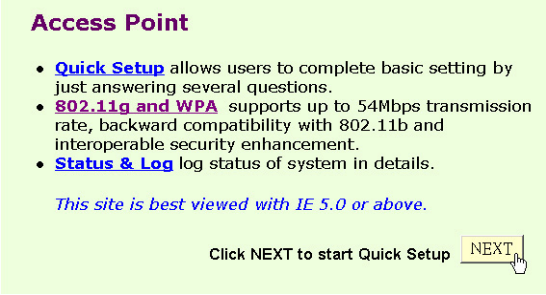
After selecting “Access Point” mode and clicking “Apply”, you will enter the “Quick Setup” page of the Access Point mode. Follow the instructions to setup the ASUS Wireless Router.

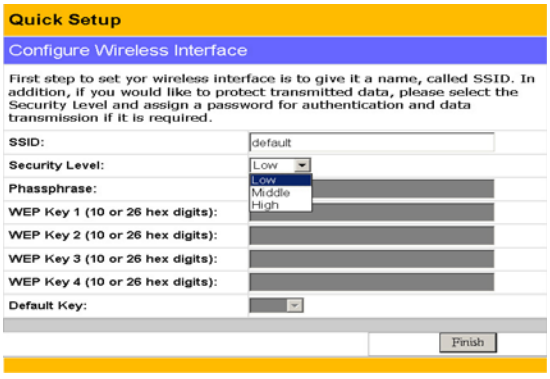
Note: The Wireless settings are the same as the settings in Home Gateway Mode. To learn more about these settings, please refer to the Home Gateway Mode in this user’s manual.

Quick Setup in Access Point Mode

Click **Next** to enter the Quick Setup page. Follow the instructions to setup the ASUS Wireless Router.

Configure Wireless Interface



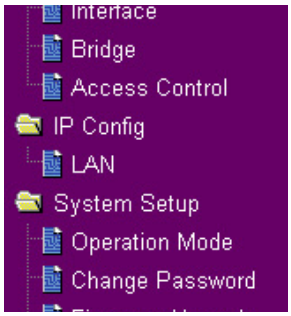


First step for setting your wireless interface is to give it a name, called SSID. In addition, if you would like to protect transmitted data, please select WEP protection and assign WEP keys for data transmission. Your wireless setting will be applied into all interfaces.

(See next few pages for item descriptions.)

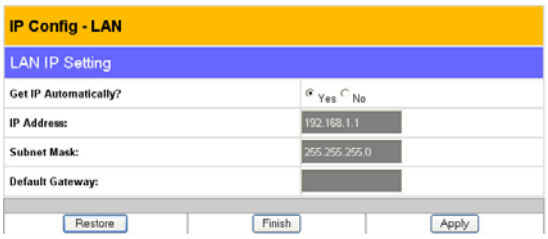
If you would like to perform other settings, click an item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Wireless Router. Tips are given when you move your cursor over each item.

IP Config (Access Point Mode)



Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Wireless Router. Tips are given when you move your cursor over each item.

LAN



Selection items:

- Yes (no info required)
- No (need to input information)

Click **Apply** or **Finish** if you make any changes.

Get IP Automatically

Select Yes (default) or No to get IP address automatically from a DHCP server.

Yes

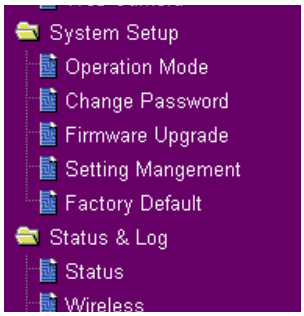
This parameter determines if the ASUS Wireless Router will send out a DHCP request during bootup. If you have a DHCP server on the network, set this option so that the ASUS Wireless Router can receive an automatic IP address assignment.

If you have a DHCP (Dynamic Host Configuration Protocol) server on the network, then the DHCP server will automatically assign the ASUS Wireless Router an IP address when the ASUS Wireless Router is powered up. To determine what IP address has been assigned to the ASUS Wireless Router, review the IP address on the “Status” page available on the “Main Menu”.

No

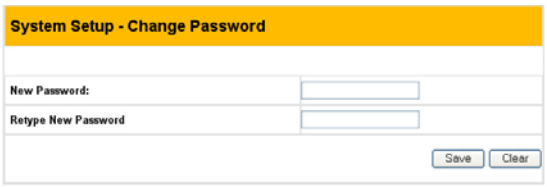
The ASUS Wireless Router also accepts a static IP address. You may manually configure the IP address and subnet mask on the “IP Config” page. Enter an IP address and a subnet mask in the field provided to assign the ASUS Wireless Router a static IP address. If you don’t know your Gateway setting, leave it empty (not 0.0.0.0).

System Setup (Cont.)



Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Wireless Router. Tips are given when you move your cursor over each item.

Change Password

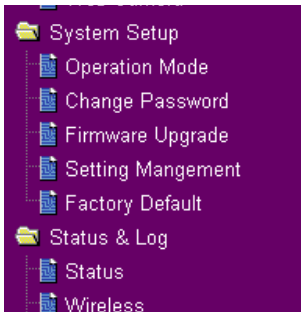


This page will allow you to change the default password “admin” (lower case) to any password of you choice. You can enter any usable characters between 1-16 characters long (cannot be left blank). Click **Save** button to save your new password. If you forget the ASUS Wireless Router’s password, you can reset the ASUS Wireless Router to its factory settings (see troubleshooting).

Note: The password is case sensitive.

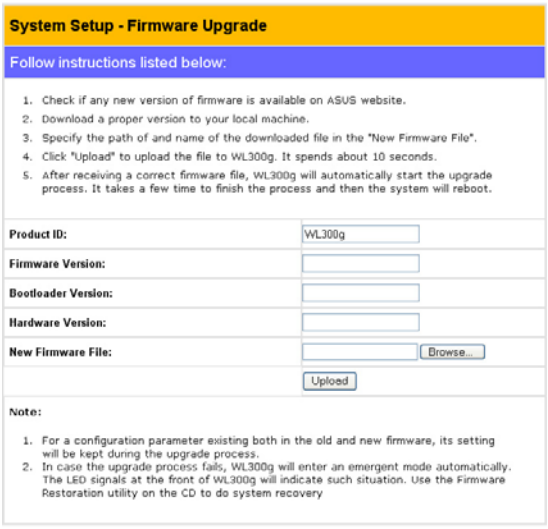
System Setup (Cont.)

Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Wireless Router. Tips are given when you move your cursor over each item.

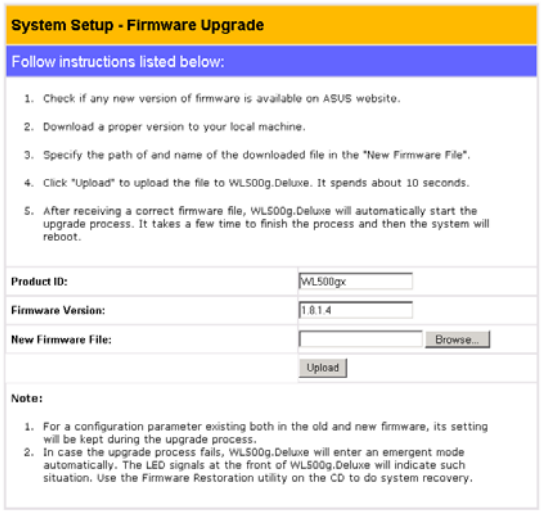


Firmware Upgrade

WL500g



WL500g Deluxe

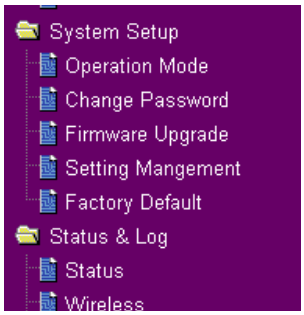


This page reports the Flash Code (Firmware) version installed in the ASUS Wireless Router. Periodically, a new Flash Code is available for the ASUS Wireless Routers on ASUS's Web site. You can update the ASUS Wireless Router's Flash Code using the Firmware Upgrade page under the Advanced Setup menu of the Web Manager. If you are experiencing a problem with your ASUS WLAN equipment, a Technical Support representative may ask you to give your device's Flash Code (Firmware) version.

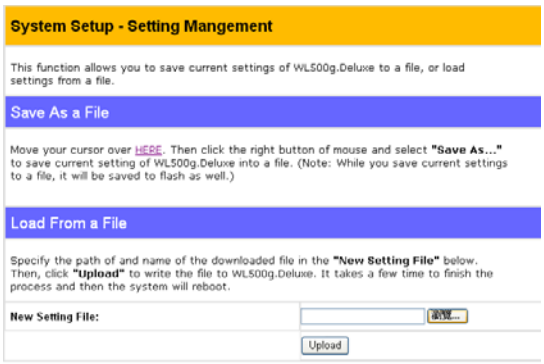
Note: The firmware upgrade takes approximately 60 to 90 seconds. When the firmware upgrade is completed, you will be directed to the home page.

System Setup - Setting Management

Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Wireless Router. Tips are given when you move your cursor over each item.



Setting Management



This function allows you to save current settings to a file, or load settings from a file.

Save As a File

Move your cursor over the **HERE** link on the web page. Then click the right button of mouse and select **Save As...** to save current setting into a file.

Note: When current settings are saved to file, it will be saved to flash as well.

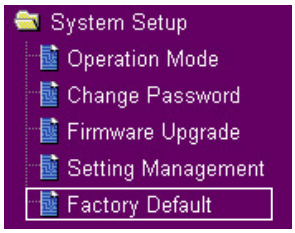
Load From a File

Specify the path of and name of the downloaded file in the **New Setting File** below. Then, click **Upload** to write the file to. It takes a few time to finish the process and then the system will reboot.

New Setting File

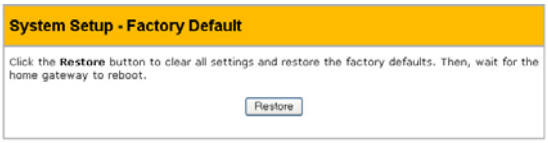
Click **Browse** to locate the file.

System Setup



Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Wireless Router. Tips are given when you move your cursor over each item.

Factory Default



Restoring Factory Default Settings

Web Manager

You can reset all settings to their factory defaults through the web manager using the “Factory Default” page in “Advanced Setup”. Click the **Restore** button and wait about 30 seconds before trying to access the ASUS Wireless Router.

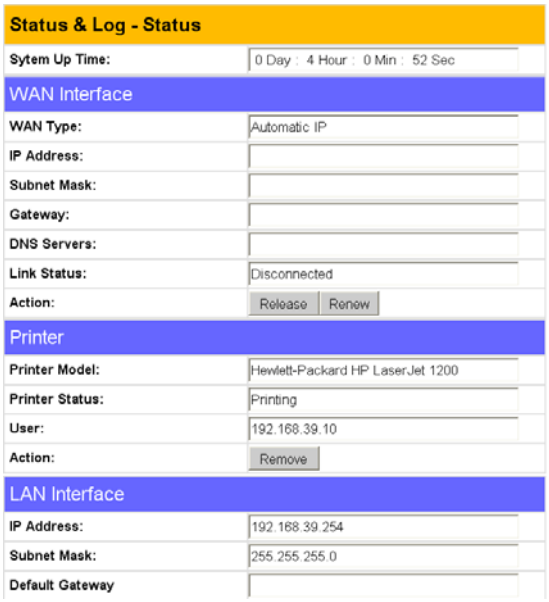
Hardware

You can reset all settings to their factory defaults manually by pushing the “Restore” button in a hole on the back of the ASUS Wireless Router while it is ON. Use a pen or straightened paper clip to hold the “Restore” button depressed over 5 seconds until the power LED on the front of the ASUS Wireless Router starts blinking.

Note: You will be notified when factory default settings are restored while using the web manager.

Status & Log

The Status & Log pages give you all the necessary information for monitoring the Wireless Router's condition.



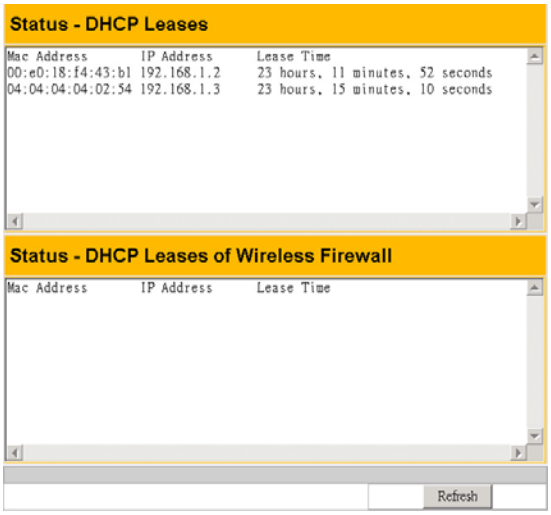
Status

System information for WAN, LAN, and Printer are displayed on this page. The buttons for WAN interface allow you to release or renew the IP address if your WAN Connection Type is set as Automatic IP. The button for Printer Server is used to remove printing jobs manually.

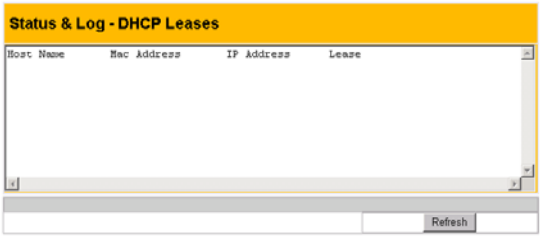
Wireless

Wireless clients, who connect to the Wireless Router, are displayed on this page. You can use buttons for radio control to manually disable or enable the wireless function.

WL500g



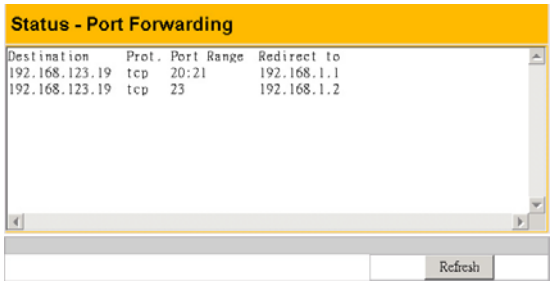
WL500g Deluxe



DHCP Leases

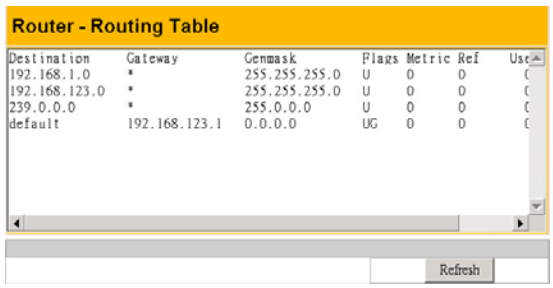
Clients who request IP from DHCP server of your local area network or DHCP server in you're your wireless network behind Wireless Firewall are displayed in this page.

Status & Log (Cont.)



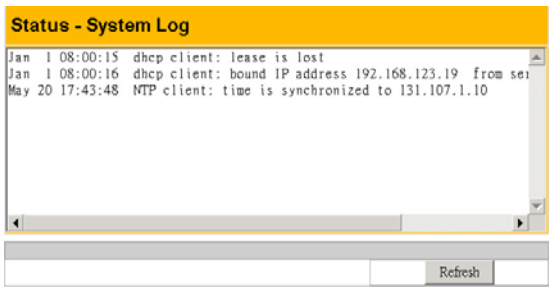
Port Forwarding

Information of port forwarding rules, which are added by Port Mapping, Virtual Server, Virtual DMZ or UPnP, are displayed in this page.



Routing Table

Static routing rules or dynamic routing rules updated by RIP are displayed in this page.



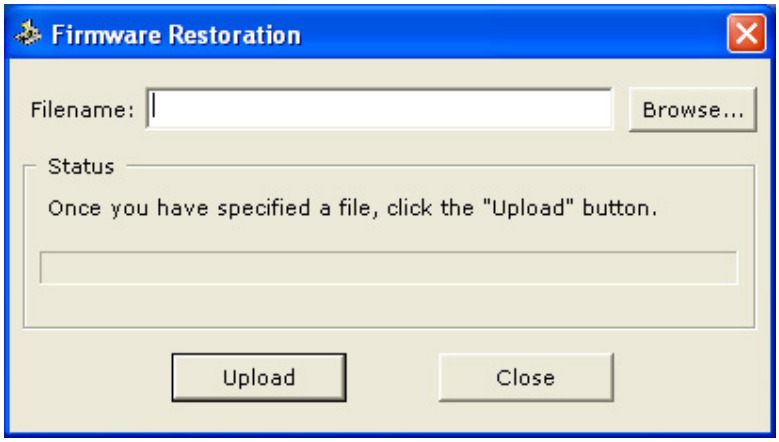
System Log

The last 1024 system log entries are recorded in this page.

Firmware Restoration

This utility will automatically search out failed ASUS Wireless Routers and upload a firmware that you specify. The process takes about 3 to 4 minutes and during this process the PWR, AIR, and WAN LEDs will remain lit while the LAN LED will flash slowly.

The Firmware Restoration utility is an emergency rescue tool to restore a ASUS Wireless Router which has failed during a previous firmware upload. A failed firmware upgrade will cause the ASUS Wireless Router to enter a failure mode, waiting for the user to use the Firmware Restoration utility to find and upload a new firmware. This is not a firmware upgrade utility and cannot be used on a working ASUS Wireless Router. Normal firmware upgrades must be done through the web manager.



Using a Hub

If you have problems upload a firmware while using a network hub, try connecting your computer directly to the LAN port. Either 10Base-T or 100Base-TX connections will work.

Setup Printer Wizard

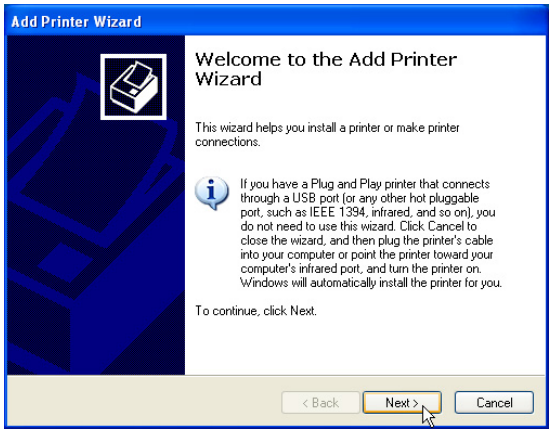
Follow the procedures below to set up your computers to utilize the printer server function of the ASUS Wireless Router.

Installing the Printer Driver

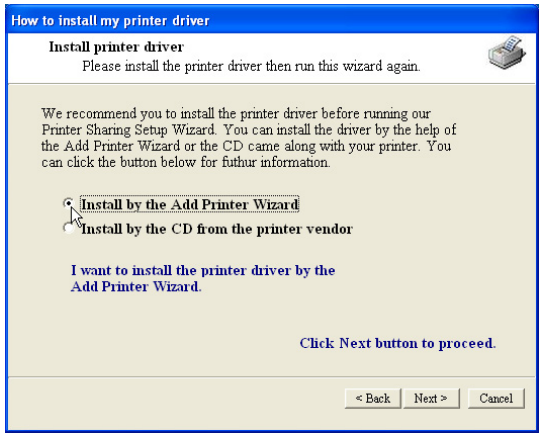
Adding a printer to your computer simplifies the ASUS Wireless Router Printer Setup Wizard.

You are recommended to install a printer driver by the setup program that comes with your printer (see following Note), and then continue to the "Printer Setup Wizard" in the next section. If you run the "Printer Setup Wizard" without a printer driver installed, you are directed to the "Add Printer Wizard".

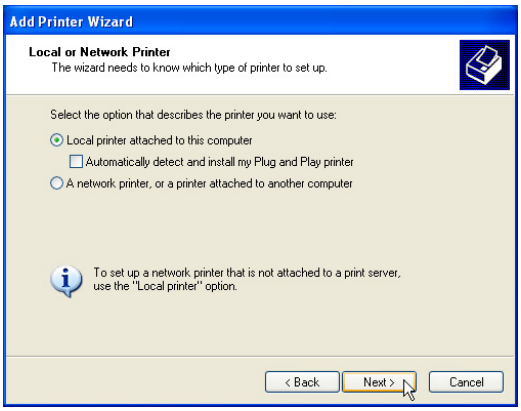
Note: Some printer setup utilities require a printer to be physically connected to your PC during installation. Follow the driver installation instructions to connect your printer to the PC to install the driver and reconnect the Wireless Router after the printer driver has been installed.



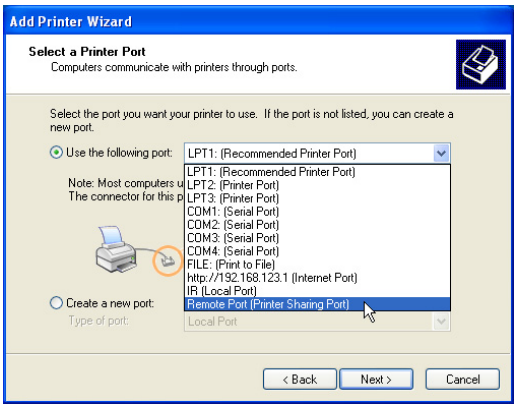
(1) Run the "Add Printer Wizard" from **Start | Printers and Faxes | Add Printer.**



(2) Choose "Install by the Add Printer Wizard".

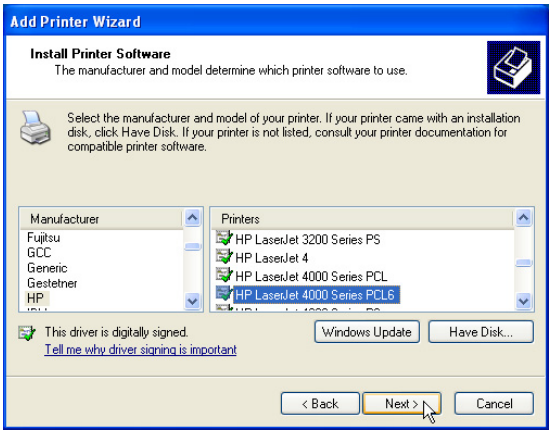


(3) Choose “Local printer attached to this computer”.

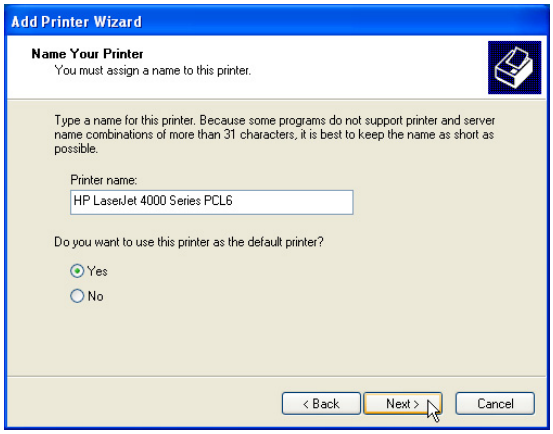


(4) Choose “Remote Port (Printer Sharing Port)”. If this is not available, select LPT1*. You can select a USB port later in the “Printer Setup Wizard” if you are using a USB printer.

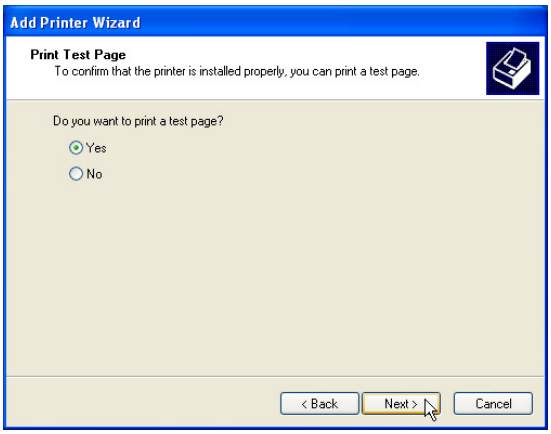
*** WL500b/g also supports standard based network printing protocol, called, LPR, which is also supported by Windows XP, Windows 2000, MAC or Unix based system. If you are a Windows XP user, please refer to Setup for LPR client under Windows XP for setting as a LPR client.**



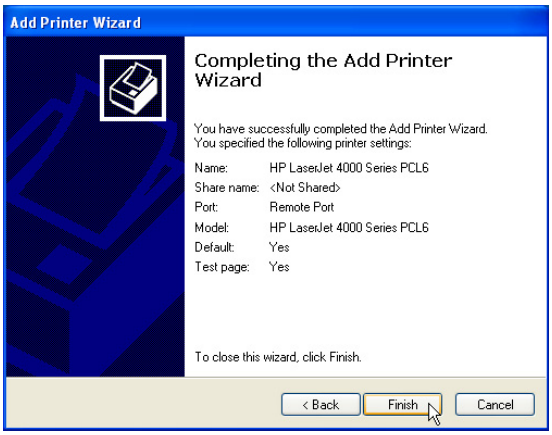
(5) Find your manufacturer and model. Click **Have Disk** if you cannot find your printer in the list and use the driver provided with your printer.



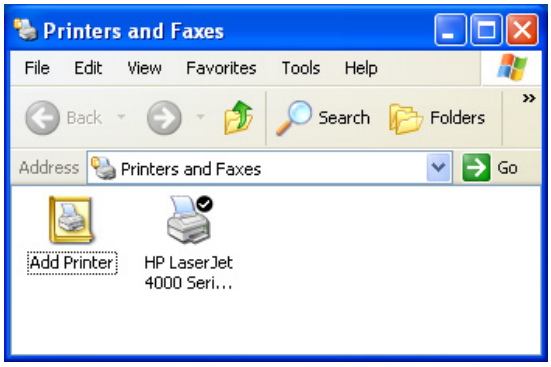
(6) Click **Next** to set this as your default printer.



(7) You can print a test page.

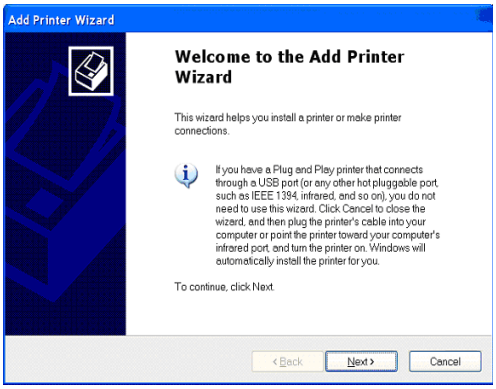


(8) Click **Finish** to close the wizard.

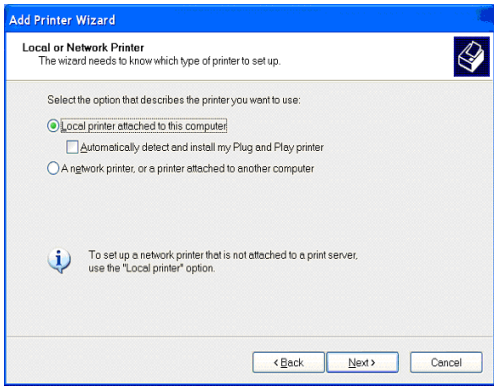


Your printer will show in the “Printers and Faxes” window and the check mark shows that it is set as your default printer.

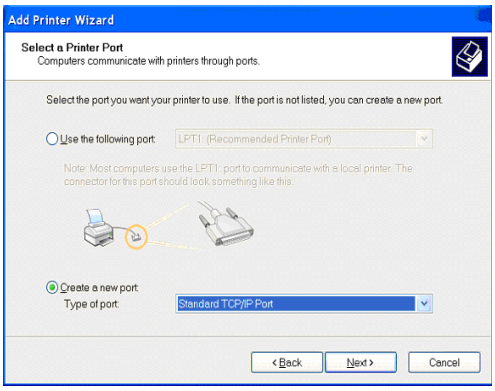
Setup for LPR client under Windows XP



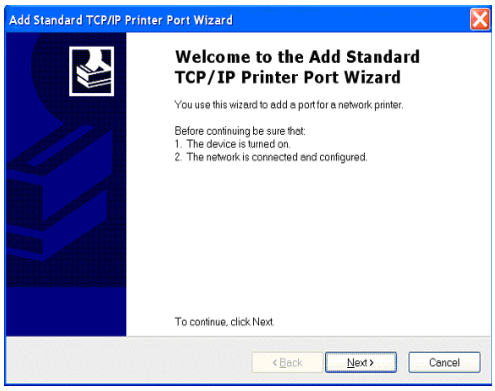
1. Run the “Add Printer Wizard” from Start | Printers and Faxes | Add Printer.



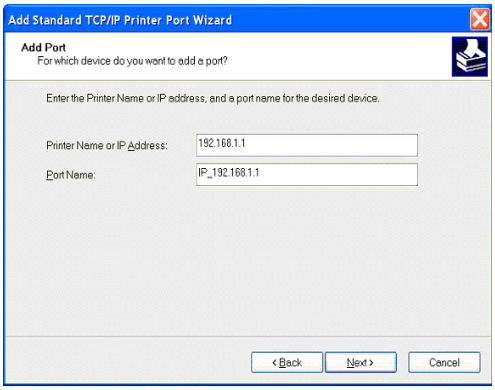
2. Choose “Local printer attached to this computer” then press **Next**.



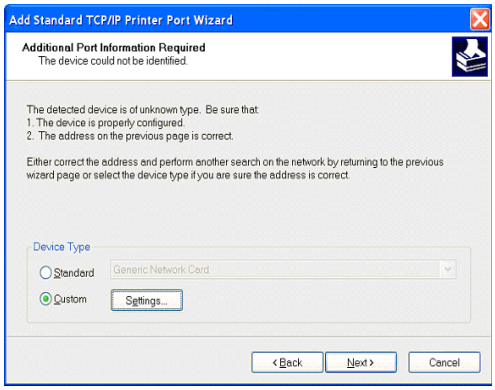
3. Click on “Create a new port” and select “Standard TCP/IP Port” in the pull down menu. Then press **Next**.



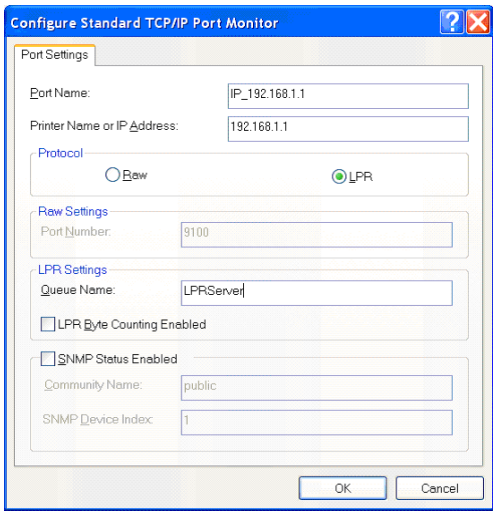
4. Click **Next** on the “Add Standard TCP/IP Printer Port Wizard”.



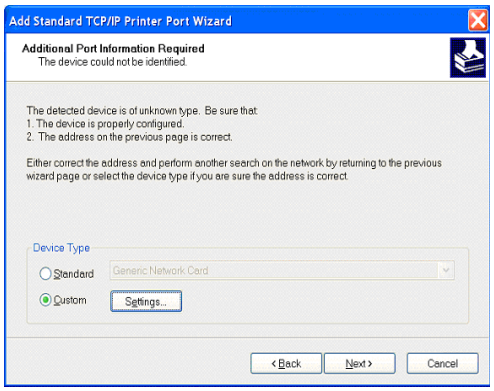
5. Input the IP address of the WL500g in the “Printer Name or IP Address” field and the press **Next**.



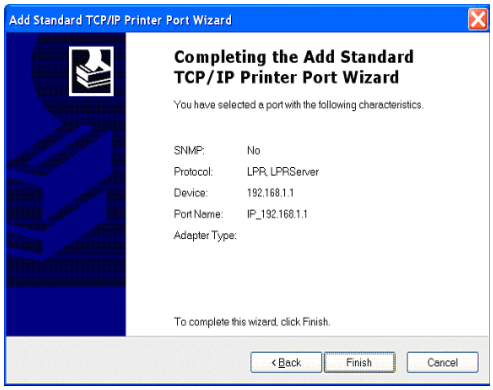
6. Select “Custom” and then click **Settings…**



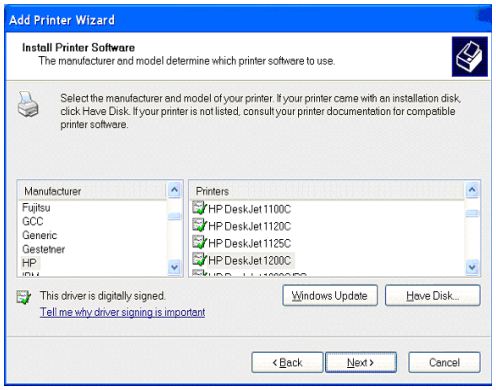
7. Select Protocol **LPR** and type **LPRServer** in "Queue Name field".



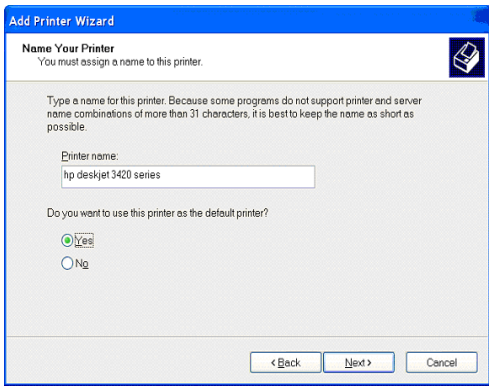
8. After completing settings, press **Next**.



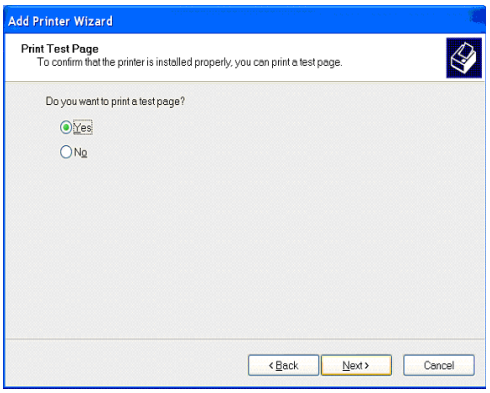
9. Press **Finish** to complete the "Add Standard TCP/IP Printer Port Wizard" and go back to "Add Printer Wizard".



10. Find the manufacturer and model of your printer. Click **Have Disk** if you cannot find it in the list and use the driver provided with your printer.



11. Click **Next** to set this as your default printer.



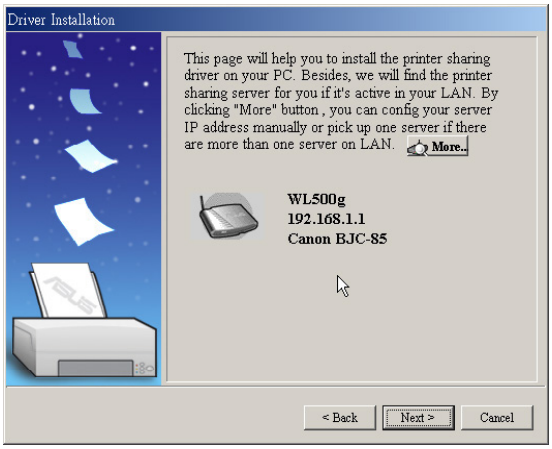
12. Select **Yes** and **Next** to print a test page, otherwise select **No**.

13. When the "Add Printer Wizard" is complete, click **Finish** to close the wizard.

Printer Setup Wizard

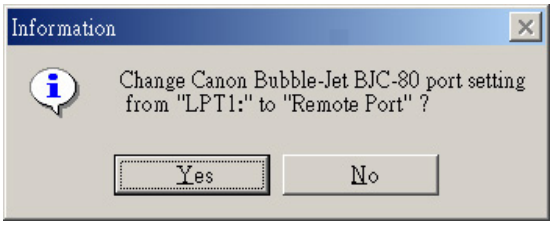
Make sure your printer is connected to the Wireless Router printer port or USB port and its power is turned on. Launch the "Printer Setup Wizard" through the Start menu. The wizard will explore all available ASUS Wireless Routers and model information of the printers attached to them in your local network.

(1) Having a printer installed on the printer port (LPT1) or a USB port makes the setup process easier (refer to the following page).



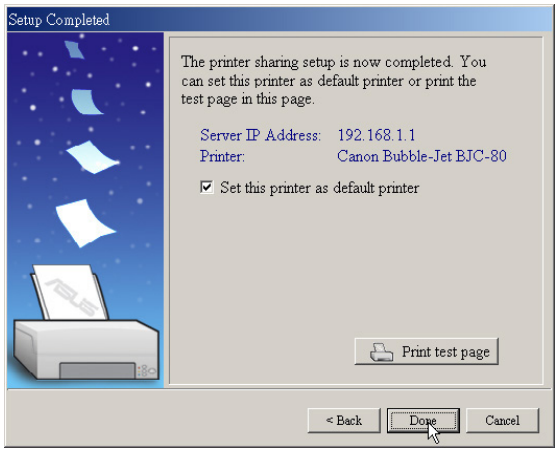
(2) If the printer is found, the name of the printer will be shown on this screen.

Note: If there is an error communicating with the printer, you will get this message. Make sure that the printer is ON, ready, and connected. Click **Back** and **Next**.



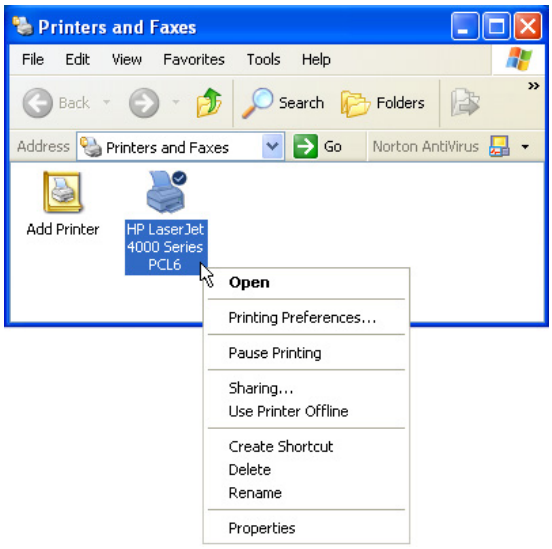
(3) This setup wizard will change your default printer to use "Standard TCP/IP port" which is serviced by the ASUS Wireless Router.

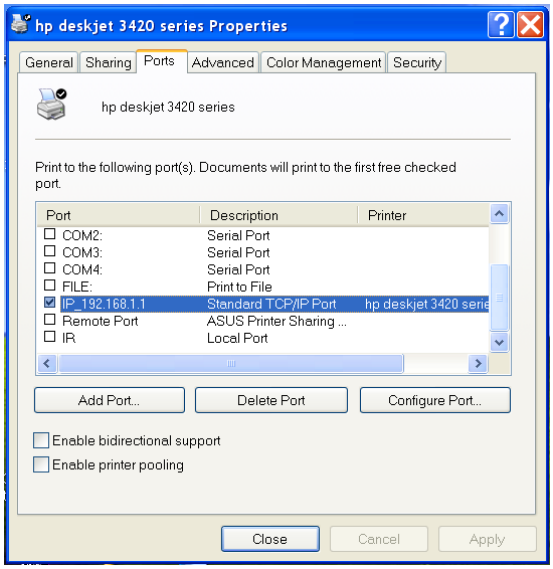
Note: For Windows XP or Windows 2000, this setup wizard will guide you to select or add a "Standard TCP/IP port". Refer to "Setup for LPR client under Windows XP" for details. For Windows 98 or Windows ME, this setup wizard will change your default printer to use "Remote Port" which is serviced by the ASUS Wireless Router.



(4) Click **Done** when setup is complete.

Verifying Your Printer





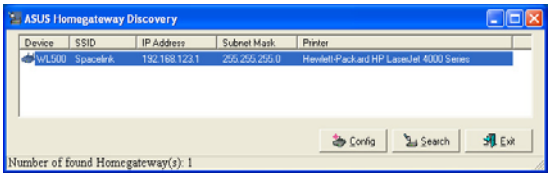
After setting up the printer, a printer icon will appear in Windows' "Printers and Faxes". Right click the printer icon and choose **Properties** to configure the printer.

If your printer was previously setup, the ASUS Wireless setup wizard changes the printing port from the computer's local LPT1 (parallel) port or USB port to "Standard TCP/IP port"*. If necessary, you can change this back at anytime or use Windows "Add Printer" to setup another printer.

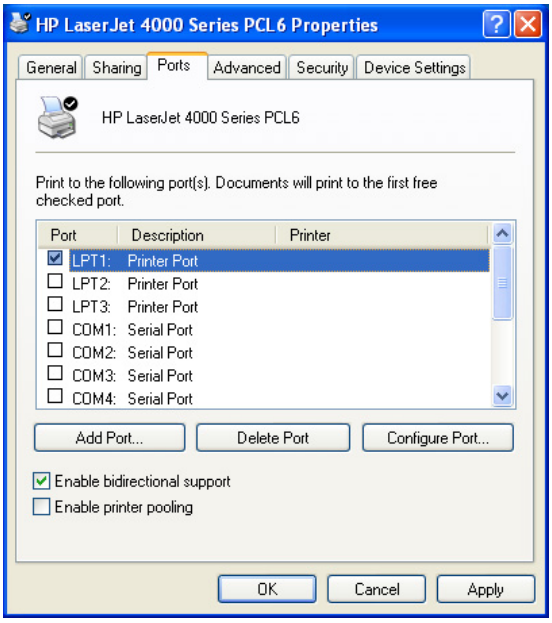
Note: If you use Windows 98 or ME which do not support "Standard TCP/IP port"", you need to use "Remote Port" which is supported by ASUS.

Verifying Your Printer (Cont')

Note: If you use LPR client in Windows XP or Windows 2000, Standard TCP/IP port will be used. Please refer to Setup for LPR client under Windows XP in details.



When properly setup, the ASUS Wireless Router will show the printer name in the "Device Discovery" utility and show "online" under the "Printer Server" on the "Status" page of the web manager.



4. Wireless Performance

This section provides the user with ideas for how to improve the performance of a ASUS Wireless network.

Site Topography

For optimal performance, locate wireless mobile clients and the ASUS Wireless Routers away from transformers, heavy-duty motors, fluorescent lights, microwave ovens, refrigerators, and other industrial equipment. Signal loss can occur when metal, concrete, walls or floors block transmission. Locate the ASUS Wireless Routers in open areas or add the ASUS Wireless Routers as needed to improve coverage.

Microwave ovens operate in the same frequency band as the ASUS Wireless Router. Therefore, if you use a microwave within range of the ASUS Wireless Router you may notice network performance degradation. However, both your microwave and your the ASUS Wireless Router will continue to function.

Site Surveys

A site survey (utility provided with the WLAN PC card and CF card) analyzes the installation environment and provides users with recommendations for equipment and its placement. The optimum placement differs for each model.

Range

Every environment is unique with different obstacles, barriers, materials, etc. and, therefore, it is difficult to determine the exact range that will be achieved without testing. However, has developed some guidelines to estimate the range that users will see when the product is installed in their facility, but there are no hard and fast specifications.

Radio signals may reflect off of some obstacles or be absorbed by others depending on their construction. For example, with two 802.11b radios, you may achieve up to 1000' in open space outdoors where two devices have a line of sight, meaning they see each other with no obstacles. However, the same two units may only achieve up to 300' of range when used indoors.

The IEEE 802.11b specification supports four data rates: 11 Mbps, 5.5 Mbps, 2 Mbps, and 1 Mbps. Operation at 1 Mbps provides greater range than operation at 11 Mbps. The ASUS Wireless Router will automatically adjust the data rate to maintain a usable radio connection.

Therefore, a client that is close to the ASUS Wireless Router may operate at 11 Mbps while a client that is on the fringe of coverage may operate at 1 Mbps. As mentioned earlier, you can configure the data rates that the ASUS Wireless Router will use. Note that if you limit the range of data rates available to the ASUS Wireless Router, you may reduce the effective wireless range of the ASUS Wireless products.

Troubleshooting

The ASUS Wireless Router is designed to be very easy to install and operate. However, if you experience difficulties, use the information in this chapter to help diagnose and solve problems. If you cannot resolve a problem, contact Technical Support, as listed on the front of this manual.

Common Problems and Solutions

Problem

ASUS Wireless Router does not power up:

Solution

- Check for faulty the ASUS Wireless Router power supply by measuring the output voltage with an electrical test meter.
- Check failed AC supply (power outlet)

Problem

Cannot communicate with the ASUS Wireless Router through a wired network connection.

Solution

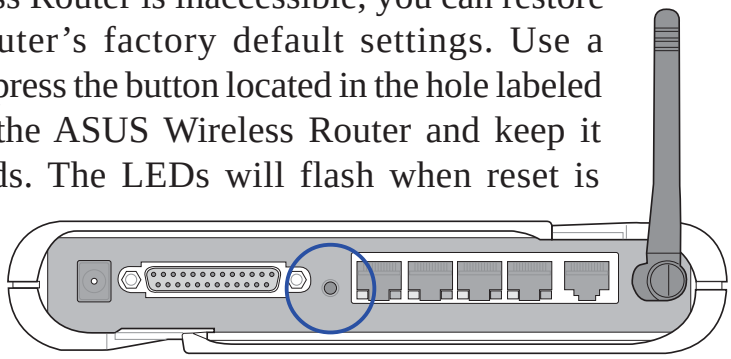
- Verify network configuration by ensuring that there are no duplicate IP addresses. Power down the device in question and ping the assigned IP address of the device. Ensure no other device responds to that address.
- Check that the cables used have proper pin outs and connectors or use another LAN cable.

Problem

The ASUS Wireless Router Web Manager still cannot find or connect to the ASUS Wireless Router after verifying the IP address and LAN cable, changes cannot be made, or password is lost.

Solution

In case the ASUS Wireless Router is inaccessible, you can restore the ASUS Wireless Router's factory default settings. Use a straightened paper clip to press the button located in the hole labeled "Reset" on the back of the ASUS Wireless Router and keep it depressed over 5 seconds. The LEDs will flash when reset is successful.



Reset to Defaults

The following are factory default values. These values will be present when you first receive your the ASUS Wireless Router, if you push the reset button on the back of the ASUS Wireless Router over 5 seconds, or if you click the "Restore" button on the "Factory Default" page under "Advanced Setup".

Name	Default Value
User Name	admin
Password	admin
Enable DHCP	Yes
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
DNS Server 1	192.168.1.1
DNS Server 2	(blank)
SSID	default
Domain Name	(blank)

Problem

My 802.11b PC Card will not associate with the ASUS Wireless Router.

Solution

Follow these steps:

1. Try to bring the devices closer together; the PC Card may be out of range of the ASUS Wireless Router.
2. Confirm that the ASUS Wireless Router and PC Card have the same SSID.
3. Confirm that the ASUS Wireless Router and PC Card have the same Encryption settings, if enabled.
4. Confirm that the ASUS Wireless Router's Air and Link LEDs are solid green.
5. Confirm that the authorization table includes or excludes the MAC address of the WLAN PC card if "Wireless Access Control" is enabled.

Problem

The throughput seems slow.

Solution

To achieve maximum throughput, verify that your antennas are well-placed, not behind metal, and do not have too many obstacles between them. If you move the client closer to the ASUS Wireless Router and throughput increases, you may want to consider adding a second the ASUS Wireless Router and implementing roaming.

- Check antenna, connectors and cabling.
- Verify network traffic does not exceed 37% of bandwidth.
- Check to see that the wired network does not exceed 10 broadcast messages per second.
- Verify wired network topology and configuration.

Problem

I cannot find the ASUS Wireless Routers using the ASUS Wireless Router Discovery.

Solution

To configure the ASUS Wireless Router through a wireless LAN card, your computer must be in the same subnet of the ASUS Wireless Router. You cannot find the ASUS Wireless Routers with subnet different from your computer within the same gateway. You must change your computer to the same subnet as the ASUS Wireless Router. The factory default subnet of the ASUS Wireless Router is "192.168.1.1".

In Windows NT/2000/XP, you must log in with Administrator privileges so that all functions of the ASUS Wireless Router Manager can function correctly. If you do not log in as a member of the Administrator group, you cannot change IP settings but can still run the Discovery utility if the original IP setting is correct.

Problem

How do I upgrade the firmware on the ASUS Wireless Router?

Solution

Periodically, a new Flash Code is available for ASUS Wireless Routers on the Web site at **http://www.asus.com**. Update the ASUS Wireless Router s Flash Code using the Firmware Upgrade option on the System Setup menu of the Web manager.

Glossary

Access Point - An access point is a device that allows wireless clients to connect to other wireless clients and it acts as a bridge between wireless clients and a wired Ethernet network.

Broadband - A type of data transmission in which a single medium (such as cable) carries several channels of data at once.

Channel - Wireless access points allows you to choose different radio channels in the wireless spectrum. A wireless LAN device operates within the 2.4 GHz spectrum and a channel is within a FCC specified range, similar to any radio channel.

Client - A client is the desktop or mobile PC that is connected to your network.

Device name - Also known as DHCP client ID or network name. Sometimes provided by an ISP when using DHCP to assign addresses.

DHCP (Dynamic Host Configuration Protocol) - This protocol allows a computer (or many computers on your network) to be automatically assigned a single IP address from a DHCP server.

DNS Server Address (Domain Name System) - DNS allows Internet host computers to have a domain name and one or more IP addresses. A DNS server keeps a database of host computers and their respective domain names and IP addresses, so that when a user enters a domain name into the Internet browser, the user is sent to the proper IP address. The DNS server address used by the computers on your home network is the location of the DNS server your ISP has assigned.

DSL Modem (Digital Subscriber Line) - A DSL modem uses your existing phone lines to transmit data at high speeds.

Encryption - This provides wireless data transmissions with a level of security.

ESSID (Extended Service Set Identifier) - You must have the same ESSID entered into the gateway and each of its wireless clients. The ESSID is a unique identifier for your wireless network.

Ethernet - Ethernet networks are connected by cables and hubs, and move data around. This is a standard for computer networks.

Frame-bursting - Refers to burst mode. *Burst mode* optionally allows a station to transmit a series of frames without relinquishing control of the transmission medium.

Firewall - A firewall determines which information passes in and out of a network. NAT can create a natural firewall by hiding a local network's IP addresses from the Internet. A Firewall prevents anyone outside of your network from accessing your computer and possibly damaging or viewing your files.

Gateway - A network point that manages all the data traffic of your network, as well as to the Internet and connects one network to another.

Handshaking - handshaking refers to the signals that are transmitted between communications networks that establish a valid connection between two stations.

IEEE - The Institute of Electrical and Electronics Engineers. The IEEE sets standards for networking, including Ethernet LANs. IEEE standards ensure interoperability between systems of the same type.

IP Address (Internet Protocol) - An IP address consists of a series of four numbers separated by periods, that identifies a unique Internet computer host, allowing messages intended for that computer to be delivered to the correct destination.

ISP (Internet Service Provider) - An ISP is a business that allows individuals or businesses to connect to the Internet. Users log on to the Internet using an account with an ISP or Internet Service Provider. ISPs can serve IP addresses dynamically, or assign static (fixed) IP addresses to individual computers.

ISP Gateway Address - The ISP Gateway Address is an IP address for the Internet router. This address is only required when using a cable or DSL modem.

LAN (Local Area Network) - A LAN is a group of computers and devices connected together in a relatively small area (such as a house or an office). Your home network is considered a LAN.

MAC Address (Media Access Control) - A MAC address is the hardware address of a device connected to a network.

NAT (Network Address Translation) - NAT masks a local network's group of IP addresses from the external network, allowing a local network of computers to share a single ISP account. This process allows all of the computers on your home network to use one IP address. This will enable access to the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

PC Card - This is an Ethernet card that connects to the PCMCIA slot on your Notebook PC. This enables the computer to communicate with wireless access points.

PPP (Point-to-Point Protocol) - PPP is a protocol for communication between computers using a serial interface, typically a personal computer connected by phone line to a server.

PPPoE (Point-to-Point Protocol over Ethernet) - Point-to-Point Protocol is a method of secure data transmission. PPP using Ethernet to connect to an ISP.

Subnet Mask - A subnet mask is a set of four numbers configured like an IP address. It is used to create IP address numbers used only within a particular network.

TCP/IP (Transmission Control Protocol/Internet Protocol) - This is the standard protocol for data transmission over the Internet. Protocols used to connect hosts on the Internet.

WAN (Wide Area Network) - A system of LANs, connected together. A network that connects computers located in separate areas, (i.e., different buildings, cities, countries). The Internet is a wide area network.

WECA (Wireless Ethernet Compatibility Alliance) - An industry group that certifies cross-vender interoperability and compatibility of IEEE 802.11b wireless networking products and to promote that standard for enterprise, small business, and home environments.

WLAN (Wireless Local Area Network) - This is a group of computers and other devices connected wirelessly in a small area. A wireless network is referred to as LAN or WLAN.

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- The busybox swiss army knife of embedded linux
- The zebra routing daemon implementation
- The udhcpd DHCP client/server implementation
- The pptp-linux PPTP client implementation
- The rp-pppoe PPPoE client implementation
- The pppd PPP daemon implementation
- The dproxy DNS proxy implementation
- The bridge-utils package

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